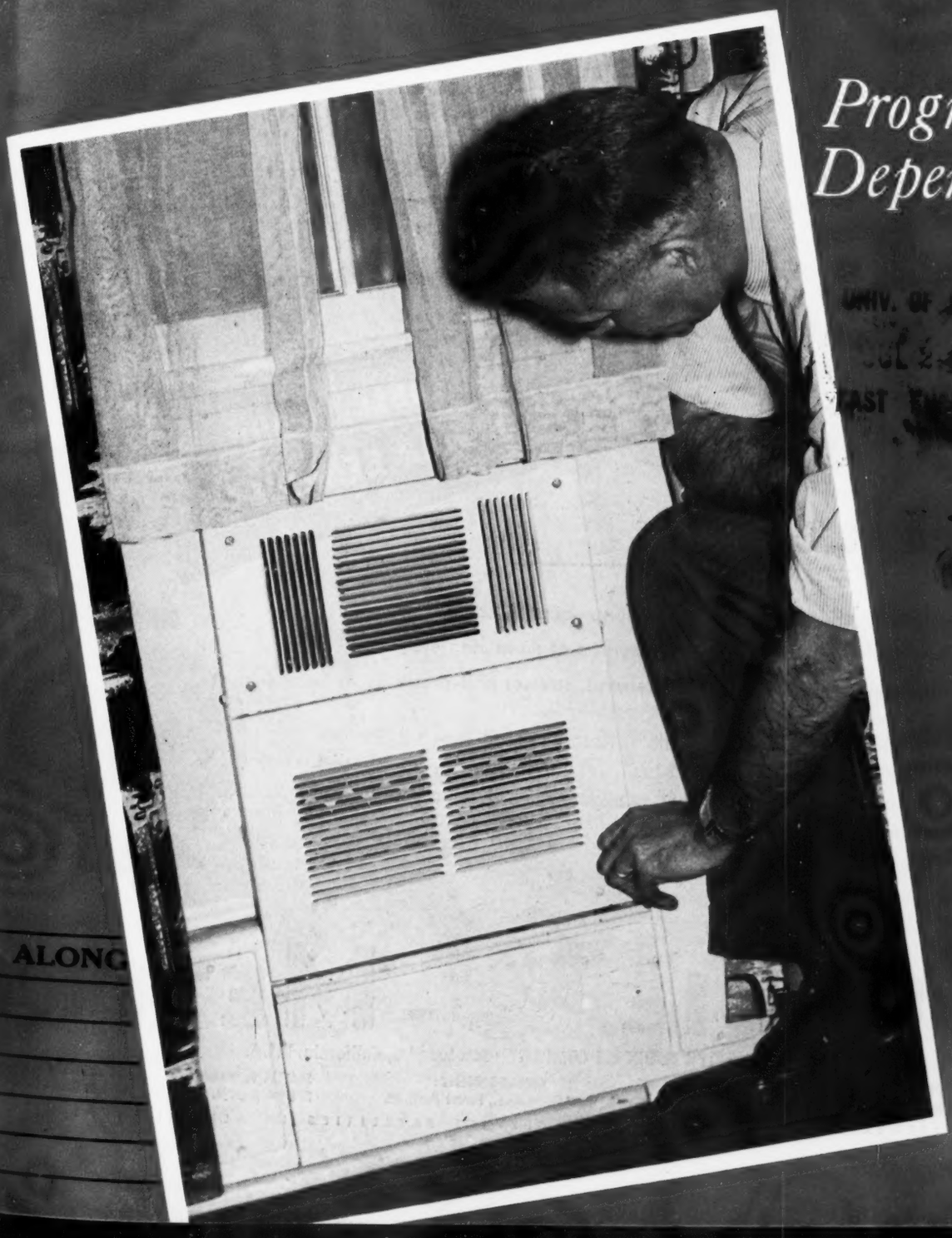
JULY
1955

fueloil & oil heat



Progressive
Dependable

UNIV. OF
JUL 21
EAST

Another BRODIE Record

189 MILLION GALLONS METERED*

IN CONTINUOUS 24-HOUR SERVICE —WITH NO MAINTENANCE AND —LESS THAN $25 FOR MINOR REPLACEMENTS

*An actual pipeline operating record where Brodie Model B-72D Meter was inspected after metering 189,000,000 gallons of gasoline and heating oil.

NO MEASURABLE WEAR OF ROTORS OR BEARINGS

and here's why:

- Large rotor bearings are designed for long enduring service
- Double case construction prevents distortion of measuring element
- All steel welded housing withstands strains, stresses and pressures

Field operating records prove Brodie BiRotor Meters' long service performance with low maintenance and high sustained accuracy. For dependable petroleum product measurement avail yourself of Brodie's specialized metering experience.

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RALPH N. BRODIE COMPANY · San Leandro, California, U.S.A.

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REPRESENTATIVES WITH STOCKS AND SERVICE FACILITIES IN ALL PRINCIPAL CITIES

JULY fueloil & oilheat 1955

VOLUME 14 NUMBER 7

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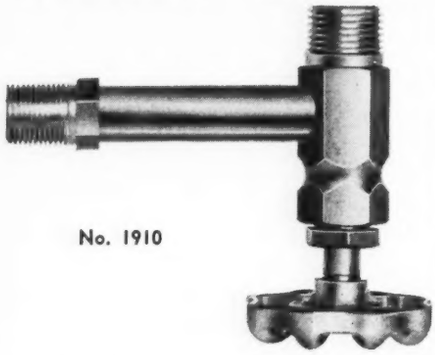
Among other things . . .

The cover picture this month shows Prof. W. S. Harris, University of Illinois, examining one of the combination hot water heating and chilled water cooling units being tested. John Schulz reports on this phase of the University's work done in collaboration with IBR on wet heat and the warm air group on the combination heating-cooling system used with a furnace. The story starts on page 64.

Jalonack is back with the second of his discussions on selling "Oilheating for Builders." This time he goes into detail on why dealers should sell the entire heating system and its benefits, rather than the fuel used. He couples this with an interesting description and diagram of an effective radiant-convection system for new homes.

Some of the significant new products exhibited last month at Boston are described and on page 60 begins a reproduction of a fact sheet prepared by the Oil Heat Institute of Long Island to highlight the disadvantages of Type B flues.

You'll like this HANDIER Guardian TANK-FILTER HOOKUP VALVE!



No. 1910

why? Because it direct-connects the oil filter to the new underside location of the oil tank discharge outlets—brings oil filter out beyond the tank rim where it can be easily installed, removed and serviced.

- **Adjustable packing nut.**
- **Metal-to-metal precision seating.**
- **Highest quality machined brass bar stock.**
- **Leakproof brazed body connections.**
- **Long-life packing.**

Write for catalog pages V-101 and V-101-A illustrating the most complete valve line designed especially for oil heat installations.
Watch August issue for a completely different type of cast valve designed for manual and fusible applications, meeting the price market!

Guardian Flexible Couplings are the *leader in the oil heating industry. Only Guardian makes all three types—Molded Nylon Jaw, Set Screw and "Silent Tension" Splined Sleeve flexible couplings.*

Guardian
PRODUCTS CORPORATION
Valve Division
Dept. F-75, 1231 E Second Street
Michigan City, Indiana

Names in the News

Thomas C. Sutton has been appointed vice president in charge of all manufacturing, OPW Corp., Cincinnati, O. He has been with the valves, fittings and assemblies manufacturing firm since 1951 and has been production control manager, general plant superintendent and manufacturing manager prior to his new appointment.

John L. Matthewman has been promoted to vice president, White Fuel Corp., Boston. He joined the company in 1951 as assistant to the president, John P. Birmingham, and is treasurer of the Independent Oil Men's Association of New England. Matthewman is a former director and vice president of the Massachusetts Oil Heating Association and is now a director and executive committee member of Better Home Heat Council, Inc.

Herman C. Zwart has joined Marlow Pumps, Division of Bell & Gossett Co., Ridgewood, N. J., as supervisor of petroleum pump sales. In addition to other activities, Zwart will coordinate petroleum pump sales in an effort to provide more specialized attention to this branch of the company's operations. Prior to joining Marlow, Zwart designed new equipment for military pipelines and was a job engineer for the California-Texas Co. working on their Sidon Refinery in Lebanon.

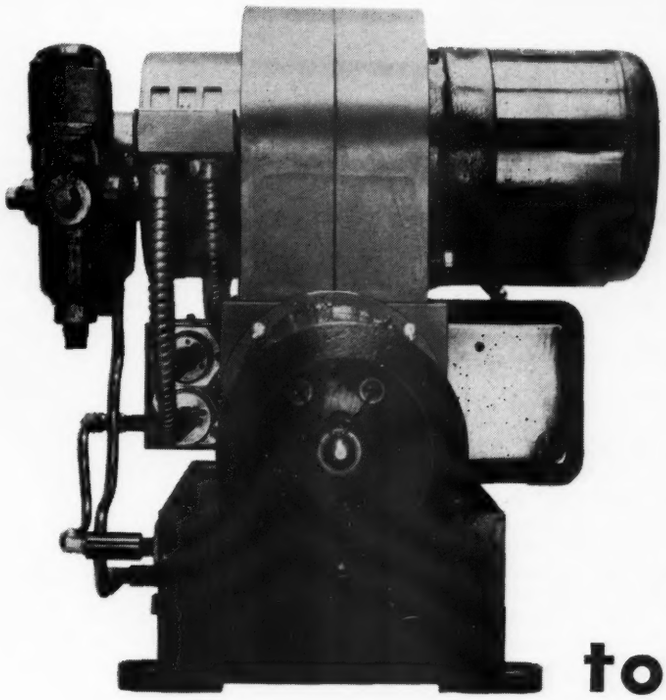
Karl A. Roesch, director of service, has been named general manager, Autocar Division, The White Motor Co., Exton, Pa. He replaces *Edward F. Coogan* who is retiring after 31 years with Autocar and 50 years association with the automotive industry. Coogan became president of Autocar in 1947, and when White Motor acquired the company in 1953 he was placed in complete charge of the division. Roesch joined White Motor in 1928; he became manager of the Cleveland branch in 1942. In 1950 he was named wholesale manager and was later general manager of the Coach and Aircraft Division. In 1954 he was appointed director of service.

Roesch

E. Vernon Jaramillo has been appointed project engineer by the Delavan Manufacturing Co., West Des Moines, Iowa. Specializing in the design and development of liquid atomizing nozzles, Jaramillo previously spent three years as a development project engineer with the General Electric Co., Cincinnati, Ohio.

Chester Bland, president, Ohio Electric Mfg. Co., Cleveland, which has produced fractional horsepower motors for the oilheating industry for 30 years, and president also of four other varied industrial organizations, was elected president of the Colt Mfg. Co., Hartford, Conn., firearms makers, on April 29. Bland first joined the oilheating industry in 1935 when he started production of range burners with Bland Oil Burner Co., Hartford. He still owns that company, which continues to distribute range burners.

Paul C. Kreuch and *Eugene F. Foubert* have been promoted to vice presidents of the Meter and Valve Division, Rockwell Manufacturing Co., Pittsburgh, Pa. Kreuch joined Rockwell in 1930 as a sales engineer. Foubert joined the company in 1941 as personnel manager of the Oakland,



The New High Pressure Gun Type Oil Burner

Approved by Underwriters' Laboratories, Inc.

to Burn #4 Oil

- *As Quiet as a #2 Oil Burner*
- *As Easy to Install and Service*
- *Built-in Electric Oil Preheaters*
- *No Complicated Parts*
- *Can Use Existing Piping in Practically All Cases*

Write for further information

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Models for Every Heating Need in Sizes from 0.5 to 22 g.p.h.

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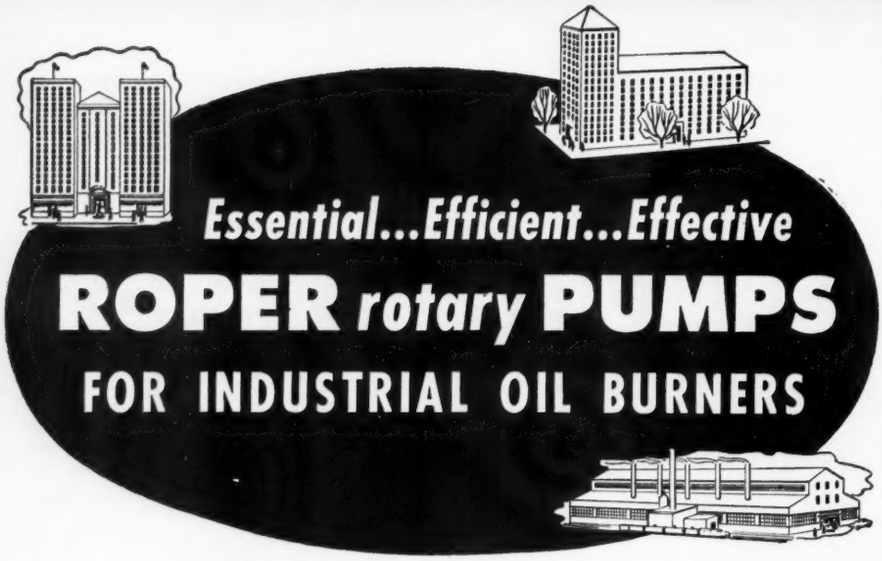
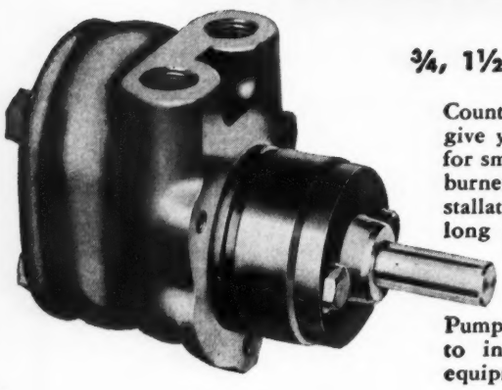


Essential...Efficient...Effective

ROPER rotary PUMPS

FOR INDUSTRIAL OIL BURNERS



¾, 1½, 3 and 5 G. P. M. SIZES

Count on Roper Series "K" Pumps to give you the features that are essential for small and medium-size industrial oil burners. Compactness and ease of installation . . . dependable operation over long periods of running time . . . fuel supply at correct pressure and viscosity are but a few advantages offered by Roper Series "K" Pumps. You owe it to those you serve to install Ropers as either original equipment or replacement.

Tested and Approved for Oil Burner Service

Roper Series "K" Rotary Pumps meet the standards set up by Underwriter's Laboratories, Inc. and then some! These reliable pumps for oil burner service are available in either packed box or mechanical seal designs — with or without relief valve. The 3/4, 1-1/2, and 3 G.P.M. sizes are flange mounted . . . 5 G.P.M. size is foot mounted.

For Heavy Duty Installations

In the larger oil burners — those burning Bunker "C" oil or heavy fuels — Roper Series "F" and Series "H" are recommended. Both are positive displacement pumps, self-lubricated by liquid pumped. Series "F" features four-port design for 8 optional piping arrangements — sizes 1 to 300 G.P.M., pressures to 300 P.S.I. Series "H" Pumps come in 5 to 75 G.P.M. sizes — pressures to 1000 P.S.I. Also available are special design pumps for unusual applications.

ROPER Rotary Pumps

SEE OUR CATALOG IN SWEET'S

GEO. D. ROPER CORPORATION
767 Blackhawk Park Avenue, Rockford, Illinois
Please send catalog with complete details.

Name.....

Address.....

City.....

Company.....

Calif., plant. In 1945 he was named manager of industrial relations and was transferred to Pittsburgh in 1947. His title is now vice president-industrial relations.

Arthur P. Ennis has been named assistant sales manager, Mor-Sun Furnace Division, Morrison Steel Products, Inc., Buffalo, N. Y. He joined Morrison in 1947 as an inspector in quality control and became service manager for the division in 1950. He became a sales engineer in 1954.

William P. Haney has been transferred from the Rhode Island and Southeastern Massachusetts territory to Chicago by Taco Heaters, Inc., Cranston, R. I. He has been with the Taco sales department for some time. *Joseph P. Burns* will take over his former territory.

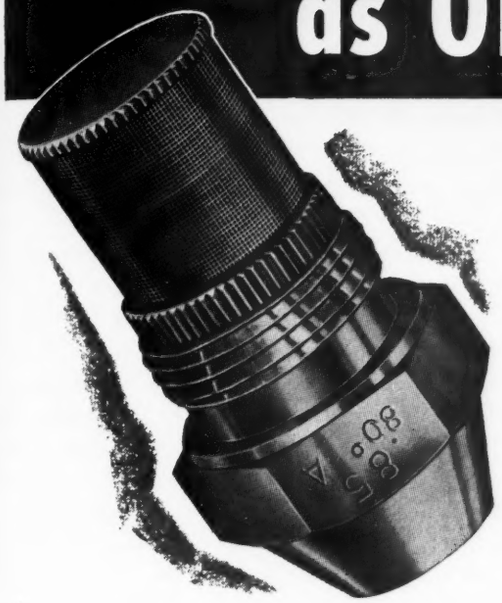
William J. Darragh has become manager of the New England District office in Hartford, Conn., for General Controls Co., Los Angeles, Calif. *Richard W. C. Barr* will replace him as manager of the Boston branch.

Darragh joined the company's Newark branch in 1950 and became a sales engineer in 1952. Barr was formerly with White-Rodgers.

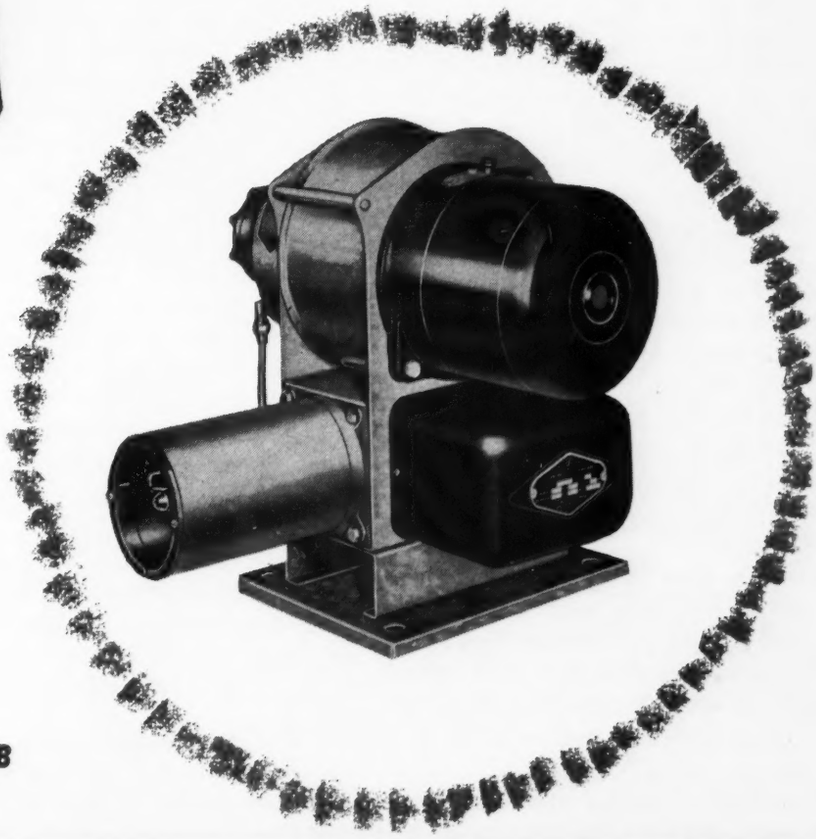
William Naden has been elected executive vice president, Esso Standard Oil Co., New York. He succeeds *Marion W. Boyer* who has been elected a director of Standard Oil Co. (New Jersey). Naden joined the company 28 years ago as a chemist. After a term as director of District I, Petroleum Administration for War, he returned to the company as manager of employee relations. He became general manager of manufacturing in 1949.

Peter J. Dalton has been named product manager of the Air Conditioning and Refrigeration Divisions, Worthington Corp., Harrison, N. J.

AMERICAN-Standard uses Delavan Nozzles as Original Equipment



The American Radiator and Standard Sanitary Corporation is another of the outstanding heating equipment manufacturers featuring Delavan Nozzles as standard equipment. The Arcoflame burner used in the quality American-Standard line of boilers and furnaces has gained wide acceptance among dealers and homeowners for quiet, efficient heating comfort.



Delavan Nozzles will deliver the same uniform dependability . . . the same soft, quiet fires time after time . . . whether they're used as original equipment in new burners or as replacements for summer clean-up or trouble jobs. Why not see for yourself. Test Delavan Nozzles and you'll see why thousands of servicemen across the country, insist on Delavan.

Write for Catalog No. 148B

DELAVAN *Manufacturing Co.*

WEST DES MOINES, IOWA

Editorial Leaks

THE OILHEATING INDUSTRY continues to be the leader in the automatic heating race but it is certainly getting some rugged competition from its principal competitor natural gas.

The gas industry in Eastern States has made a lot of headway but not as much as its sponsors had hoped to accomplish. The result is some rather desperate ventures that are proving quite effective in some markets.

Among these is the concept of renting gas equipment for the heating season so that the customer has an opportunity to learn for himself what gas rates are.

Two or three principal cities of New England have tried this with a modest degree of success principally because their rates were very high.

Now this rather unhappy procedure is coming to light in markets a little more favorably situated on gas fuel costs. Most recently the United Gas Improvement Company has started a new selling program through Eastern Pennsylvania in its Harrisburg, Lancaster, Lehigh and Reading divisions.

Here they are offering a one-year rental trial plan under which they charge 75¢ a week starting September 1 and running through May 31, 1956. If and when the customer buys the equipment he gets full credit for the rental.

There is nothing unethical about such a plan but fortunately our industry has been relatively free of these desperation gimmicks. It isn't so much that the gas industry has not been growing but the truth is that they expected to sweep all opposition out of the way overnight and they are disappointed that all of the public hasn't taken them at face value.

The oilheating crowd in Eastern Pennsylvania has a strong defensive and promotional job to do and from all indications they know how to go about it.

❖

IT WAS A REFRESHING experience to sit in on a luncheon party at the graduation of the oil group at New York City Community College. This college is one of the units of the University of the State of New York and it is the only Eastern school of that rank to have a two-year course in petroleum marketing . . . perhaps it's the only one in the country.

A number of the graduates had gone into the college after studying oilheating in one of three New York City vocational high schools.

This first graduating class in petroleum marketing had only thirty scholars completing the course. In the college as a whole there were 576 students being graduated at that time so the petroleum group was only 5% of the total. It was surprising then to discover that out of this small petroleum segment the audience was introduced to the president of the senior class Alvin Newman, the president of the student council Julius Herklatz, and the valedictorian Keith Myers.

It's an amazing record when the three top honors are concentrated in a 5% slice of the graduating group. Perhaps it's because they were embryo oilmen, which in itself is undoubtedly a distinction. Possibly it's because the boys were more or less hand-picked at the start.

A third possibility and not too far fetched is that the professor heading the course, Max Streisand, knows his way around.

❖

QUITE OFTEN READERS send in questions relating to their problems in the oil-heating business. They are handled just as promptly as we can get to them assuming we know the answers. When they are of general interest we sometimes publish them in the magazine in the "Readers' Problems" department.

One came in the other day with a very appealing touch. The letter ended on this note: "I thank you, but for God's sake don't put my name or town in FUELOIL & OIL HEAT as I am well known and the town is small with only three oilburner servicemen in it, and these particular trouble jobs are right here in town."

That is a reasonable request but the writer should have had no anxiety in that direction. We always camouflage in one way or other the identity of the person sending in such a question. We do show initials which are not the correct ones and we show the location because geography has quite a lot to do with answers to questions in this industry.

❖

THE API MARKETING DIVISION meeting in St. Louis last month was the largest mid-year session held to date with 550 oilmen registered. Considerable credit for this goes to J. G. (Doc) Jordan, of Shell, who heads the Marketing Division and to the program committee under the leadership of Marc Braeckel, of Sinclair and Ed Toby, of American Mineral Spirits, as vice chairman.

Howard Vesper, Standard of California, is secretary.

The principal departure from previous programs which probably had much to do with the high attendance was the fact that all sessions were "workshop conferences" in which the audience participation was strongly encouraged and realized.

Conventions pretty generally seem to be swinging in that direction, particularly the most effective ones.

❖

THE MONTH OF MAY among other distinctions gave birth to a new contemporary publication "Yankee Oilman." Frank Porter, president of API, and the six New England governors took time out from their busy schedules to have their pictures taken and send greetings and wishes for success to the new literary brainchild.

Donal Sullivan as editor, has had a lot of experience in the publishing business going back to the days before he took over as executive secretary of the Independent Oil Men's Association. We predict its success.

Bob Gray

A Powerful Talking Point
in any Fuel Oil Sales Plan

You will find amazing appeal for the householder in the automatic features of VENTALARM Signal fuel oil delivery! Over 4500 major and independent dealers have proved this to their own satisfaction.

This year, make VENTALARM Signal the heart of *your* sales campaign. Use its guarantee of clean, convenient delivery in the following specific ways:

1. To convert old customers to a more profitable "keep full" basis.
2. To regain lost customers.
3. To gain the favorable attention of prospects.

Successful Sales Plans Including Advertising Aids
ready for your immediate use

Write today for your Free Copy of

"A FUEL OIL SALES PLAN"

With it, we will send sample copies of letters, folders, envelope stuffers, cards and newspaper ads all ready to go to work for you. The literature can be imprinted in your name and it all is available at less than cost.

For Tanks in Use
Model LC
with easy compression-fit top

For New Tanks
Model LA
with threaded top

Count on VENTALARM Signal to save you between 15% to 30% on delivery costs in addition to all its customer benefits.

Over 4,000,000 VENTALARM Signals proven in field use.

Manufactured under full and active patent protection.

Sold through a nationwide network of leading Supply Houses.

Underwriter's Laboratories Listed: VENTALARM Signals Type LA (1¼" x 1¼"), #220 (1¼" x 1¼" compression top), #521 (2" x 1¼"), #270 (2" x 2"), #271 (2" x 2" with half union top), #275 (2" x 2" with compression top); VENTALARM GAUGE combinations Type VG-A (2" x 1¼") and VG-B (1½" x 1¼").

Universally approved by Leading Fire and Safety Authorities in accordance with the individual models which fulfill local regulations.

SCULLY SIGNAL COMPANY 174 Green St., Melrose 76, Mass.

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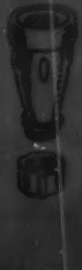
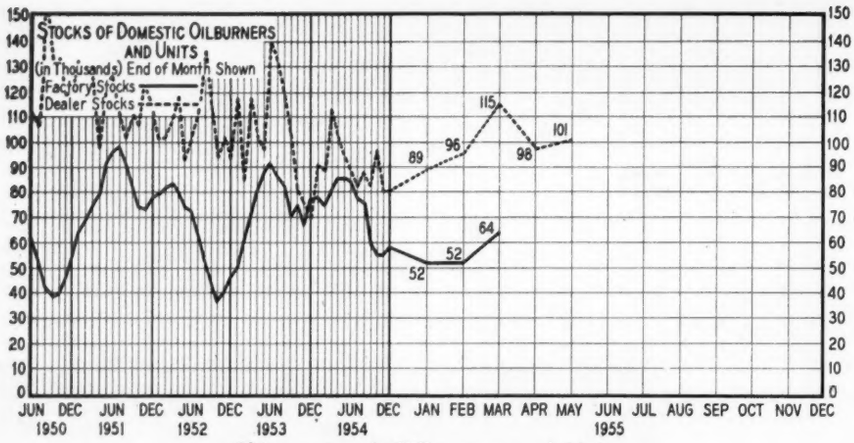
VENTALARM® GAUGE
Combination Audible Signal and Visible Gauge

SCULLY® GAUGE
Easy-to-See Separate Gauge Sturdy, Economical

FASFILL® CONNECTOR
Portable Connection for Gun and Fill Pipes of all sizes



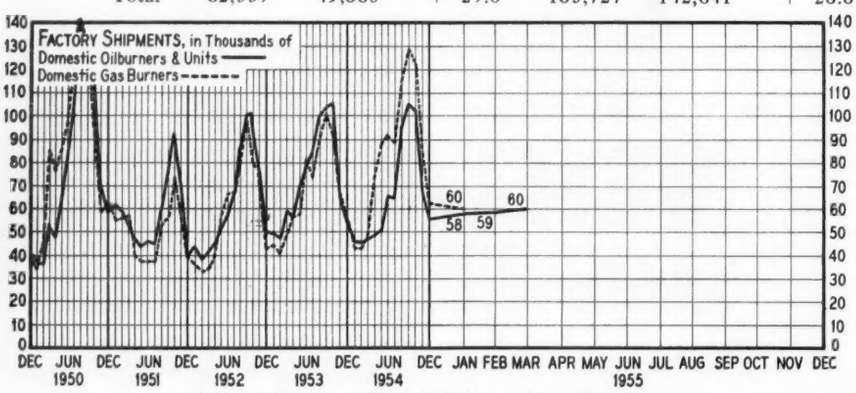


Shipments of Oilburners and Units

(Including Exports)

Adjusted to include manufacturers other than the 145 reporting to Census Bureau, FUELOIL & OIL HEAT's estimates of shipments are:

	MARCH			THREE MONTHS		
	1955	*1954*	*Percent Change*	*1955*	*1954*	*Percent Change*
Separate burners	40,896	32,409	+ 26.2	122,621	91,419	+ 34.1
Boiler Units	5,220	3,930	+ 32.8	14,770	11,282	+ 30.9
Furnace Units	13,505	10,916	+ 23.7	38,784	32,286	+ 20.1
All Domestic	59,621	47,255	+ 26.2	176,175	134,987	+ 30.5
Commercial	2,714	2,608	+ 4.1	7,552	7,654	— 1.3
Total	62,335	49,863	+ 25.0	183,727	142,641	+ 28.8


FACTORY SHIPMENTS, in Thousands of
Domestic Oilburners & Units
Domestic Gas Burners
60
58
59
60
DEC JUN DEC JUN DEC JUN DEC JUN DEC JUN DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1950 1951 1952 1953 1954 1955

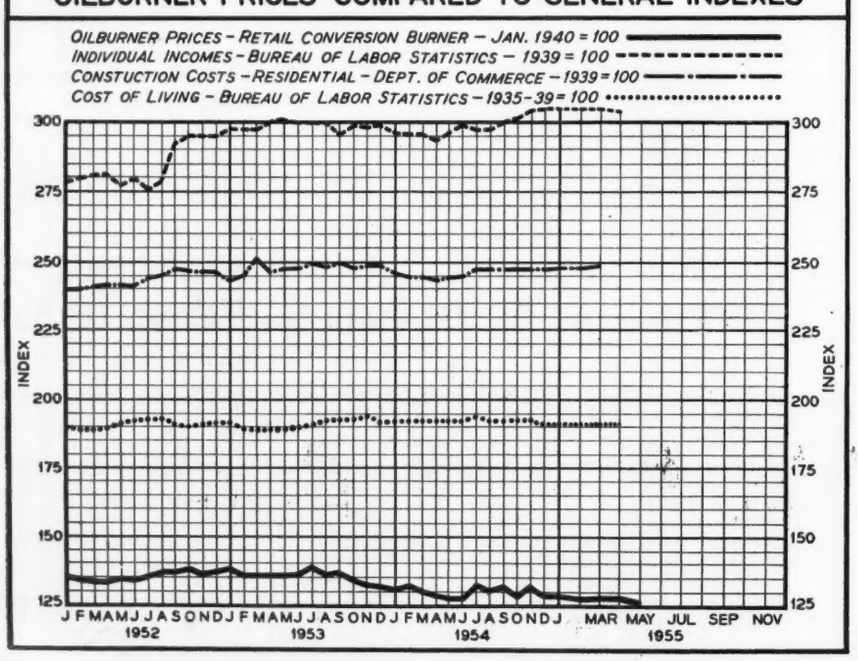
May Minimum Retail Prices: Key Dealers

	CONVERSION BURNERS	BOILER-BURNERS	FURNACE-BURNERS
May Aver.	$314	$709	$590
April Aver.	314	706	594

Price Index: Conversion Burners: January 1940 is 100%

WHOLESALE				RETAIL			
May	139.7	Six months ago	133.7	May	125.9	Six months ago	130.7
April	138.4	Year ago	138.9	April	128.1	Year ago	126.8

OILBURNER PRICES COMPARED TO GENERAL INDEXES


OILBURNER PRICES - RETAIL CONVERSION BURNER - JAN. 1940 = 100
INDIVIDUAL INCOMES - BUREAU OF LABOR STATISTICS - 1939 = 100
CONSTUCTION COSTS - RESIDENTIAL - DEPT. OF COMMERCE - 1939 = 100
COST OF LIVING - BUREAU OF LABOR STATISTICS - 1935-39 = 100
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J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J MAR MAY JUL SEP NOV
1952 1953 1954 1955

Oilheating Trends

MAY INSTALLATIONS of domestic oilburners and units were up 12% from the previous year, 53,553, compared with 47,946. These figures may be a little on the low side for 1955 because factory shipments are showing more of a gain than is reflected in stock levels. However, we report these installations just as we get them from the field sampling studies so if we are running a little low this will correct itself in time.

May installations were divided: New Homes, 26,272; Replacements of old oilburners, 7,113; Conversions from other fuels, 20,168.

There has been some confusion in the industry over the word "conversion," so starting this month we will try and make the meaning more clear. In our table showing factory shipments of oilburners and units we have dropped the word conversion burners and are calling them "separate burners." This is to distinguish the individual oilburner from the complete boiler or furnace unit. We will continue to use the word "conversion" to indicate instances where a family stops using some other fuel and switches to oil. The number of these instances a month we will report as "conversions from other fuels." The actual equipment employed may be a separate oilburner or it may be a complete boiler or furnace unit.

Total installations on the first five months of this year were 231,242 compared with 210,111 last year, showing an increase of 10%.

BURNER STOCKS: At the end of May dealers had on hand approximately

The Industry···SELLS for YOU!

Coleman

NATIONAL ADVERTISING pre-sells with full page ads like this →

Look to Coleman
...for air-conditioning and heating
to fit your home, your climate, your budget!
Blend-Air CENTRAL AIR-CONDITIONING

To Home Owners and future buyers! Month after month your prospects will read how easy it is to install Blend-Air, and how easy to own! TIE IN with Coleman. Generous co-op advertising plan . . . plus complete display, direct mail and demonstration material.

COLEMAN Vit-Rock Gas Water Heaters

Vit-Rock's solid rock lining separates water and metal—can't rust, ever! Backed by 10-year warranty and exclusive $500 Bond—the industry's strongest guarantee!

TO BUILDERS. Coleman advertising tells how they can use the $1000 comfort bond to help them sell—when you install Blend-Air for them! Recommend Blend-Air on your bids—and get profitable volume business with big developments!

TIE IN!—MAIL COUPON TODAY!

The Coleman Company

WICHITA, KANSAS

Coleman

OIL FIRED

The Coleman Company, Inc., Dept. FOH-152
Wichita 1, Kansas

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TOWN_____ ZONE____ STATE_____

home heating and air conditioning.

fueloil & oilheat

101,260 domestic oilburners and units. This compares with 98,355 the previous month and with 94,771 on the same date in 1954.

The May 31 stocks were divided: Separate burners, 53,092; Boiler-burner units, 22,907; Furnace-burner units, 25,261.

Factory stocks on March 31, the latest available data, were 64,016 compared with 79,676 the previous year.

TANK STOCKS: These continue on the low side considering the volume of oilheating installations this year. At the end of May they were approximately 48,007 which compares with 49,545 a month earlier and with 55,187 the previous year.

By sizes the May 31 stocks were: 220-275 gallon, 41,210; sizes 550-675 gallon, 4,817; sizes 1,000-gallon and over, 1,980.

The average price paid by dealers for a 275 gallon tank during the month of May was $29 or $1 below the previous month. By sections of the country these prices were: New England, $24; Mid-Atlantic, $29; Midwest, $28; Pacific Northwest, $37.

Special Study this Month

BOILER HEATING: There have been indications that boiler heating is improving its position in competition with warm air. We had a number of inquiries on various boiler subjects which caused us to make this special study. In addition, the steel and cast iron boiler groups have launched a new promotional program designed to attract public interest to their products.

The reporting dealers from all sections of the country say that 36% of the new home market now gets boiler heating as against 64% warm air. In a similar study that we made in May 1952, 33% of new homes were getting boilers and 67% furnaces.

The principal change has occurred in the New England and Mid-Atlantic states with the Pacific Northwest also swinging somewhat toward boilers. Our Midwest reporting companies find the boiler industry getting less of the new home industry now than three years ago.

In the current study we find new home boilers designed for steam representing 8% and those for hot water 28% of all new homes. The foregoing figures are based on the individual dealers' impression of all new home activity that he sees around his market. On his own individual sales, how-

Oilburner* and Building Permits

OILBURNERS					DWELLINGS			
May		5 MONTHS			May		5 MONTHS	
1955	1954	1955	1954		1955	1954	1955	1954
12	13	..	47	Albany, N. Y.	..	..	..	..
24	43	178	267	Baltimore, Md.	302	290	1607	1054
..	..	..	..	Binghamton, N. Y.	25	15	73	60
..	..	..	..	Bloomfield, N. J.	39	11	103	35
..	..	..	..	Boston, Mass.	89	49	304	200
105	78	467	371	Bridgeport, Conn.	..	..	..	..
..	..	..	..	Buffalo, N. Y.	50	41	221	175
..	15	..	92	Columbus, O.	..	..	..	..
..	..	..	..	Des Moines, Ia.	131	286	..	1574
..	..	..	..	Detroit, Mich.	217	283	1086	1236
30	20	115	131	Elizabeth, N. J.	2	1	26	31
22	38	177	178	Freeport, N. Y.	..	..	..	..
..	..	..	..	Greenwich, Conn.	..	30	..	211
..	..	..	..	Hackensack, N. J.	13	10	34	28
..	58	..	514	Hartford, Conn.	..	..	..	..
..	..	..	..	Hudson County, N. J.	..	..	..	..
32	37	101	117	Irvington, N. J.	5	4	17	10
..	..	..	..	Lynn, Mass.	22	15	92	69
51	31	150	262	Meriden, Conn.	..	..	..	..
499	534	1936	2143	Milwaukee, Wisc.	479	377	1450	1340
8	9	65	69	Minneapolis, Minn.	120	96	421	376
6	25	55	67	Montclair, N. J.	..	..	..	..
11	..	19	..	Morristown, N. J.	1	3	12	33
30	33	122	111	Mt. Vernon, N. Y.	..	..	..	..
125	132	..	431	Newark, N. J.	..	..	..	..
51	49	284	208	New Bedford, Mass.	..	..	..	..
22	38	92	142	New Haven, Conn.	..	..	..	..
..	..	..	..	New Orleans, La.	..	..	..	..
..	14	..	83	New Rochelle, N. Y.	34	39	193	138
..	..	..	..	New York City (Total)	..	..	..	..
684	708	3832	4438	Brooklyn-Queens	..	..	..	..
..	..	..	..	Manhattan, Bronx, Rchd.	..	..	..	..
22	31	117	266	Norfolk, Va.	107	22	303	187
..	..	..	..	Oakland, Calif.	..	..	..	..
..	8	..	71	Omaha, Nebr.	..	126	..	467
7	13	..	44	Orange, N. J.	2	1	8	7
12	13	38	48	Passaic, N. J.	..	..	..	..
52	41	173	108	Paterson, N. J.	20	39	74	144
204	227	1161	1543	Philadelphia, Pa.†	..	..	..	..
..	..	..	..	Plainfield, N. J.	13	8	58	40
50	39	202	178	Portland, Me.	27	22	78	57
332	335	1513	1358	Portland, Ore.	..	176	..	732
21	35	82	103	Poughkeepsie, N. Y.	..	..	..	..
67	71	288	..	Providence, R. I.	40	18	107	62
..	..	..	..	Reading, Pa.	3	4	13	24
40	25	157	136	Richmond, Va.	30	33	153	200
54	31	..	144	Roanoke, Va.	..	..	..	..
85	181	423	576	Rochester, N. Y.	..	..	..	..
11	6	51	46	Rockville Center, N. Y.	5	3	25	27
25	36	130	131	Salem, Mass.	4	10	32	23
140	68	658	473	St. Louis, Mo.	32	41	213	231
4	8	43	39	St. Paul, Minn.	4	134	351	458
13	9	56	106	Schenectady, N. Y.	..	..	..	..
..	..	..	..	Seattle, Wash.	200	291	985	1033
96	231	721	623	Spokane, Wash.	..	..	..	..
..	..	..	..	Springfield, Mass.	178	150	746	485
19	20	149	152	Stamford, Conn.	..	..	..	..
..	..	..	..	Syracuse, N. Y.	..	..	..	..
..	..	..	..	Trenton, N. J.	4	2	32	34
..	..	..	..	Utica, N. Y.	44	20	87	49
22	43	237	254	Washington, D. C.	..	..	..	..
..	..	..	..	West Orange, N. J.	27	17	125	93
..	25	..	92	White Plains, N. Y.	32	18	54	89
23	87	157	225	Wilmington, Del.	2	11	37	28
98	101	391	475	Worcester, Mass.	..	..	..	..
59	37	187	207	Yonkers, N. Y.	..	..	..	..
2164	2501	9936	11399	*Totals*	1624	1696	6685	5683
—13.5	..	—12.8	..	*Percent Change*	—4.2	..	+17.6	..

*Permits are not total sales in each market since none are reported from suburban areas, which normally account for 20% to 60% of total sales in each market; nor are they an accurate index where enforcement is lax. Rightly used, however, they are a useful working index.

†Courtesy of "Philadelphia Inquirer."

Why store distillate fuel sludge?

Refiners can eliminate many of next winter's sludge problems *now* with Du Pont FOA-2.

Untreated fuel oil stocks stored for winter consumption tend to form insoluble residues during the storage period.

Then sludge trouble can start—in filters, lines, and bulk storage tanks, and in the tanks and burners of fuel oil customers. It means additional cleaning costs and needless service calls for your distributors.

Du Pont Fuel Oil Additive No. 2 will help you overcome this costly nuisance two ways:

1. **FOA-2 prevents filter clogging** by retarding the formation of insoluble residues and by reducing the particle size of those residues that are formed.

2. **FOA-2 disperses sludge** and, over a period of time, helps rid dirty fuel systems of deposits already formed.

To keep oil fresh and clean-burning for next winter, FOA-2 gives best results when added at the refinery to freshly prepared stocks—the stocks that are being processed and stored right now!

In conjunction with FOA-2, it is recommended that Du Pont Metal Deactivator also be used to overcome the harmful effects of such copper as may be present and which may lead to gel-like formations.

Promotion opportunities

Fuel oils stabilized with Du Pont FOA-2 have built-in promotion value, too—extra clean-burning and dependable heat that's uninterrupted by filter clogging.

Refiners get the additional advantage of refining flexibility with FOA-2 improved stocks. FOA-2 makes it possible to blend catalytic cracked stocks with straight-run products . . . increase yields of domestic heating oils, and release straight-run stocks for premium diesel fuel or cat-cracked charging stock.

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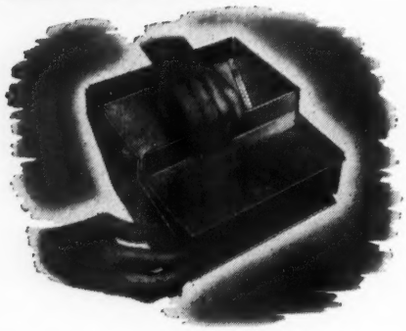
PRACTICAL
PRE-FAB
FITTINGS

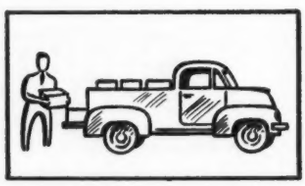


Duc-Pac fittings and duct PRESS together . . . in SECONDS. And Duc-Pac's *exclusive* internal lock eliminates any "hammering-over" of edges. Result: a neater job—finished faster.

Duc-Pac fittings and duct, packed in strong cartons, save space in storage and on your truck . . . can't collect dust or become dented. Inside the carton, all parts of each fitting are banded together and each fitting is labelled for quick identification.

Write TODAY for complete information on DUC-PAC—the line of *practical* pre-formed fittings.

No need to go through this time-consuming routine when you use Duc-Pac . . . the *practical* pre-formed fittings.



Duc-Pac fittings are quickly, easily loaded and unloaded . . . can't become battered on the way to the job.

DUC-PAC
DIVISION OF SWETT BROS.
78 ISLAND POND ROAD
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ever, he reports boiler heating at 41% and warm air heating at 59%, when he installs a complete new unit.

Boilers and Oilheating

In other words oilheating as an industry has given the boiler crowd a little better play than they get from the gas or coal industry.

The gains of the boiler industry while fairly definite are yet moderate. They will probably be accelerated by the new promotion program. We asked the reporting marketers what they saw in the progress of boiler heating in their communities, with the following results: 36% say that boilers are gaining in popularity; 23% say that they are losing in popularity; 41% report no change.

Some industry men have had a feeling that the oilheating dealer, particularly where he is also an oil marketer, is more inclined to sell a boiler unit and then have someone else install the radiation. There is some truth in this but not too much.

We find that 72% of the companies sell and install their own radiation and piping while 28% do not. When we count the actual boilers installed by the group during May we find that 79% were handled by the companies that do the complete boiler and radiation job and 21% by companies that only sold the boiler and had someone else install the radiation.

Trend away from Radiators

It is interesting to learn how the long established free standing radiator is giving ground to the later types. We find that only 27% of the boiler jobs handled by the reporting group are getting free standing radiators. On the other hand 36% are being fitted with radiant baseboard heating, 18% with convector-type baseboards and the remaining 19% with standard convectors.

Oilheating marketers, of which the reporting group is fairly representative, favor steel boilers over iron in a ratio of 55% to 45%. On the other hand they favor iron radiation with 66% while steel scores 23% and other materials, principally copper, 11%. The detail of this by three principal sections of the country is shown in the boiler and radiation materials table at the bottom of this page.

We have omitted from the table the figures for the Southern states and the Pacific Northwest because too few boilers were reported from those areas.

Purchasing Pattern

The reporting group buys 24% of its boilers and boiler-burner units from local wholesale supply houses and 76% direct from factories.

When it comes to radiation, however, the local supply house is favored with 91% of the business while direct factory purchases account for only 9%.

DEALER COMMENTS: Typical of the comments of the month are: . . . "Boiler heating would be almost 100% in our area if a practical and reasonably priced airconditioning unit could be incorporated with wet heat" . . . "With air conditioning becoming very popular, air is dominant because of the easy tie-in" . . . "We favor wet heat but have been more or less forced into warm air installation because of its lower price. Building contractors in our area buy the cheapest heat they can get for new homes" . . . "The swing is back to cast iron boilers due to the sad experience of homeowners having cheap competitive steel boilers in the houses they buy" . . . "The swing is toward warm air; Iron Fireman Selectemp may start trend toward steam; looks like a big year" . . . "Starting the second year of cheap natural gas nearly all of our sales are gas heating" (This is a heating subsidiary of an oil company) . . . "We sold a lot of baseboard radiation up to three years ago but are now selling more forced air because customers want something cheaper."

Boiler and Radiation Materials

	BOILERS		RADIATION		
	Iron	*Steel*	*Iron*	*Steel*	*Other*
New England	48%	52%	47%	16%	37%
Mid-Atlantic	66	34	72	19	9
Midwest	12	88	68	32	neg.
Three Sec.	45%	55%	66%	23%	11%

Now! Thatcher offers more year-round sales with a new complete line

Another good reason why you'll do better with Thatcher!

Make sales faster, easier with the backing of a *complete line* company! *Every* type of unit — for *all* fuels — for *every* system. Puts you in a position to sell *both* the new construction and modernization markets. And most important: Thatcher's *complete* winter heating and summer cooling lines assure you year 'round business . . . year 'round profits! It's one of the many features that continue to give Thatcher wholesalers and dealers that extra edge on competition.

Why not make your sales job easier . . . more profitable . . . with Thatcher. Get the full story today! Write Thatcher Furnace Company, Garwood, N. J.

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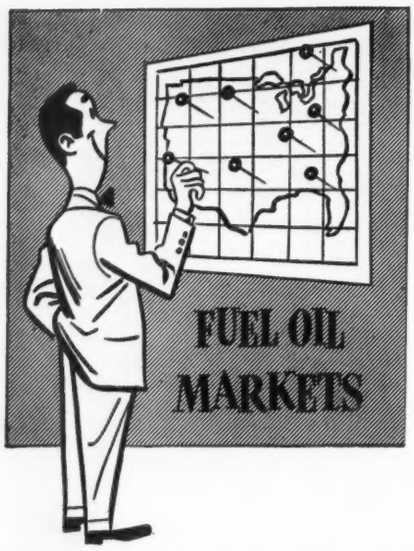


DISTILLATE FUELOIL stocks at the middle of June were nearly 15 million bbls. above last year at refineries, terminals and in transit East of the Rockies. Some supplying companies consider this excessive and anticipate a soft spot market but others are just as firmly convinced that they are running on a more realistic pattern.

Of course, the stocks are actually up because of refinery runs substantially above the current market demand for both distillates and gasoline. On the other hand, oil industry history has proven that they never get very far on the high side before a soft spot market pulls down the runs.

Secondary stocks you will notice in the table were a little below last year at the end of April, which was the latest official information available.

The only change in the price table as of June 15, compared to the previous month, was a drop in the tank car market at Minneapolis from 10.5¢ to 10.375.

Now that the heating season has ended we find that most of the country again was warmer than normal. Much of this result came from the very warm spring, because as an industry we had been doing very well through February.

In Eastern states the season was 6% colder than last year but 5% warmer than normal. In the Midwest the principal cities averaged 5% colder than last year but 7% warmer than normal. The Pacific Coast was 16% colder than last year and 4% colder than normal . . . these ratios are based on the averages of all cities.

No. 2 Heating Oil (Including No. 3 & PS200)

Price per gallon as of June 15, 1955

	Tank Car	Tank Wagon		Tank Car	Tank Wagon
Portland, Me.	10.25¢†	13.9¢	Richmond	10.45¢†	13.6¢
Boston	10.15†	13.8	Charleston, S. C.	10.3†	13.3
Providence	10.15	13.8	Chicago	10.7*	14.1
Springfield, Mass.	..	..	Detroit	11.65*	14.9
Hartford	10.4†	13.9	Cleveland	11.3*	13.7
New Haven	10.05†	13.5	Minneapolis	10.375	13.8
Syracuse	11.05†	14.2	St. Louis	10.5*	13.9
Albany	10.35†	13.6	Indianapolis	11.125*	14.6
New York	10.05†	13.5	Milwaukee	12.0*	15.0
Newark	10.05	13.0	Des Moines	10.75	13.8
Philadelphia	10.05	12.9	San Francisco	10.45*	13.0
Harrisburg	..	14.0	Portland, Ore.	11.05*	13.6
Baltimore	10.05†	13.6	Seattle	10.95*	13.6
Wilmington, N. C.	10.15†	13.4	Spokane	13.45*	16.0
Washington	..	14.0	Los Angeles	9.95*	12.5

*Delivered.
Tank wagon prices shown are for maximum one-time delivery discounts.
†Prices subject to vol. allowance .50¢/gal.

DEGREE DAY TABLES

ONE MONTH ONLY					SEASON TO DATE			
	May		Percent		Sept. through May			Percent
Normal	1954	1955	Change*		Normal	1954	1955	Change*
246	301	155	—37.0	Albany AP	6888	6313	6476	— 6.0
20	105†	0	..	Atlanta AP	2826	2693†	2751	— 2.7
115	175†	76	—33.9	Baltimore AP	4782	3699†	4973	+ 4.0
236	287	133	—43.6	Boston AP	5742	5124	5395	— 6.0
315	335	206	—34.6	Buffalo AP	6720	6043	6150	— 8.5
229	275	112	—51.1	Chicago AP	6252	5365	5506	—11.9
108	214	60	—44.4	Cincinnati CO	4532	4126	4569	+ 0.8
223	263	126	—43.5	Cleveland AP	5950	5133	5379	— 9.6
0	55	0	0	Dallas AP	2272	2165	2147	— 5.5
286	256	203	—29.0	Denver AP	6051	4953	5758	— 4.8
201	275	80	—60.2	Des Moines AP	6384	5848	5962	— 6.6
251	327	154	—38.6	Detroit AP	6336	5749	5793	— 8.6
248	322	161	—35.1	Grand Rapids CO	6396	5837	5873	— 8.2
201	251	129	—35.8	Hartford AP	6094	5437	5765	— 5.4
399	386	480	+20.3	Helena AP	7951	7123	8255	+ 3.8
0	14	0	0	Houston AP	1388	1242	1230	—11.4
176	216†	101	—42.6	Indianapolis AP	5581	4676†	5218	— 6.5
111	153	36	—67.6	Kansas City AP	4880	3937	4320	—11.5
68	47	88	—29.4	Los Angeles CO	1432	1102	1247	—12.9
94	188	32	—66.0	Louisville AP	4434	4098	4148	— 6.5
351	415†	229	—34.8	Milwaukee AP	6944	6112†	6490	— 6.5
259	369	124	—52.1	Minneapolis AP	7748	7198	7409	— 4.4
0	8	0	0	New Orleans CO	1175	1087	1146	— 2.5
153	198	100	—34.6	New York CO	5032	4422	4824	— 4.1
175	235	55	—68.6	Omaha AP	6123	5412	5582	— 8.8
93	145	50	—46.2	Philadelphia CO	4523	4041	4254	— 5.9
137	220	88	—35.8	Pittsburgh CO	5035	4552	4716	— 6.3
394	419	289	—26.7	Portland, Me. AP	7493	6928	6987	— 6.6
199	203	316	+58.8	Portland, Ore. CO	4046	3844	4362	+ 7.9
258	297	185	—28.3	Providence AP	6041	5460	5633	— 6.8
81	205	41	—49.4	Roanoke, Va. AP	4152	3927	4153	0
94	156	20	—78.7	St. Louis CO	4462	3921	4107	— 8.0
233	136†	257	+10.3	Salt Lake City AP	5785	4660†	6378	+10.3
248	264	261	+ 5.2	San Francisco CO	2523	2360	2749	+ 9.0
499	612	376	—24.7	Sault Ste. Marie AP	9016	8447	8365	— 7.2
246	247	363	+47.6	Seattle CO	4237	4143	4486	+ 5.9
245	317	145	—40.8	Toledo AP	6322	5677	5740	— 9.2
87	143	47	—46.0	Washington AP	4337	3866	4132	— 4.7

*Compared with normal. †City Office.

Distillate Fueloils

PRIMARY STOCKS* (Thousands of Barrels) East of Rockies

	June 10 1955	June 11 1954
East Coast	30,690	26,262
Midwest	27,508	23,651
Gulf Coast	18,639	14,375
Total	76,837	64,288

SECONDARY STOCKS** (Thousands of Barrels)

	April 30 1955	April 30 1954
East Coast	5,034	5,272
Midwest	4,577	4,531
Gulf Coast	646	623
Mountain	475	472
Pacific	1,175	1,128
Total	11,907	12,026

*American Petroleum Institute. **Bureau of the Census.

AMERICAN-Standard ANNOUNCES A NEW YEAR 'ROUND AIR CONDITIONING PACKAGE

Oil-Fired
Heating-Cooling Unit

Heating*	Cooling	
85,000 Btu	2 hp	3 hp
112,000 Btu	2 hp	3 hp

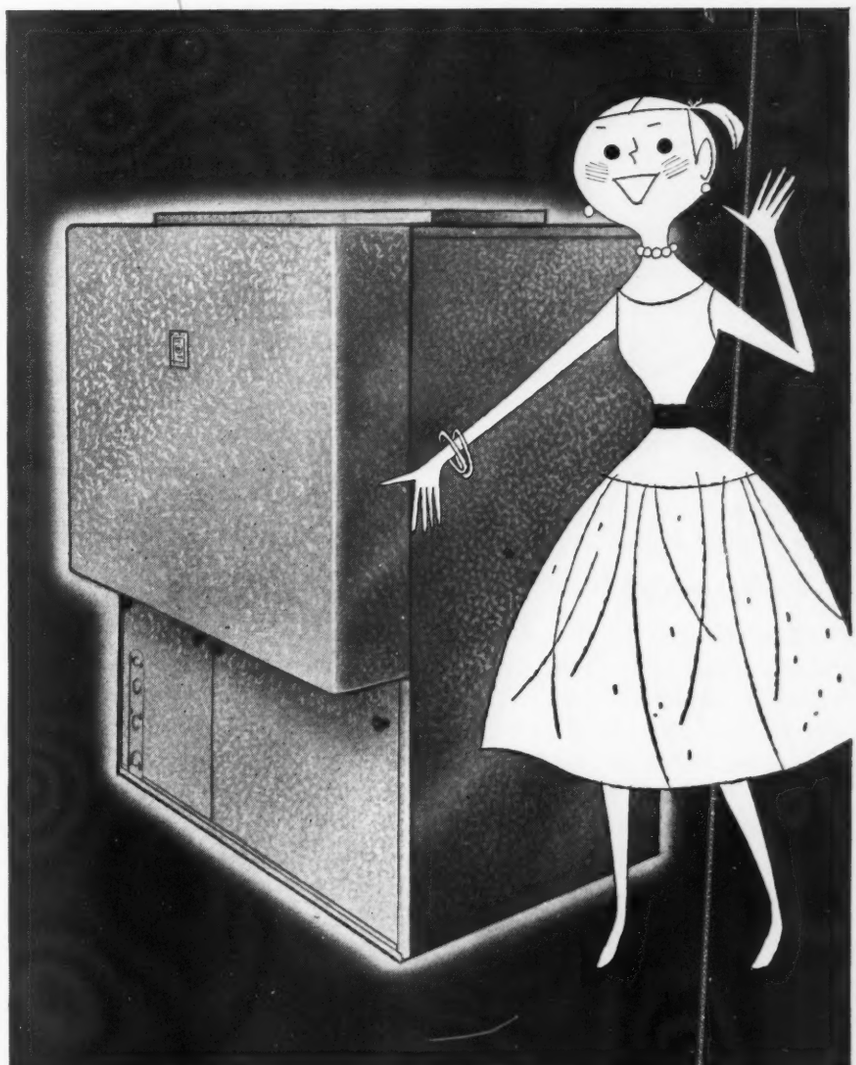
*Btu at Bonnet

American-Standard's new oil-fired combination summer and winter air conditioner offers flexibility as to relative heating and cooling capacities. It enables the new home builder or the present home owner to achieve the utmost in year 'round comfort at lowest cost consistent with top-brand quality.

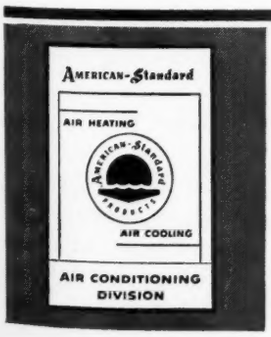
Handsomely styled, compact in design, this unit can be installed in any type of home wherever a few square feet of floor space is available—utility room, closet or basement.

Not only does this model excel in performance—it's competitively priced to sell fast. Features include manual or automatic summer-winter changeover damper, and summer-winter thermostat. The cooling circuit is covered by American-Standard Five Year Protection Plan. Unit is available with or without cooling circuit.

Ask your American-Standard air conditioning distributor for full details. He's listed in the Yellow Pages of your classified telephone directory under "Air Conditioning Equipment" or "Furnaces".



FACTORY ASSEMBLED—READY FOR INSTALLATION
Refrigerant circuit is packed separately for ease of handling.



AMERICAN-Standard

AIR CONDITIONING DIVISION

ELYRIA, OHIO

American Radiator & Standard Sanitary Corporation

Government Influences on Fuels

by
Milburn Petty

WASHINGTON — A comprehensive investigation of the gas industry—from the well to burner tip—may follow in the wake of the battle over the Harris Gas Bill.

Such an inquiry would have the backing of the coal interests who vainly sought to write into the Harris Bill provisions for banning "below-cost" sales of natural gas to industrial plants and laying down an "end use" control policy.

(Gas companies have insisted that off-season sales to industrial plants is the only way to get the volume needed to meet consumer demands during the heating season at "reasonable" prices.)

Consumer representatives, on the other hand, are interested in learning why gas that sells for 8¢ to 11¢ in the field costs as much as $2.73 per thousand cubic feet in the East.

Gas Bill Amended Many Times

Indications now are that if Congress does enact legislation to free independent producers from federal price control—as many of its friends in Congress now believe doubtful—it likely will be loaded with "consumer safeguards," as to making it more of a "control" bill than "decontrol."

One of the bill's strongest supporters on the House Commerce Committee said "it would be a strategic error to push for House consideration at this session."

He said congressmen have been bombarded with "vicious and misleading propaganda" against the bill.

While the issue of exempting producers is simple and easily understood, "the bill is a complicated and highly technical document," he said, adding that this has enabled opponents "to obscure the real issue."

Harris Asks for Gas Inquiry

Earlier, Rep. Oren Harris (D., Ark.), author of the bill, had indicated his doubts about it passing when —after it squeaked out of committee, 16 to 15—he proposed an investigation of transmission and distribution costs and "other factors" entering into the price to the ultimate consumer.

Harris said that closeness of the vote made it "quite obvious to me" that before this situation is cleared up in the interest of the industry and the consumer "other factors are going to have to be considered."

The committee started out, Harris said, to relieve the producer of federal control as Congress intended when the Natural Gas Act was passed.

However, the committee developed facts at its hearings which, Harris stated, "led it to the conclusion that in the interest of the consumer there must be federal regulation of prices which the consumer would pay, of not only future contracts, but existing contracts between pipelines and producers."

The bill, as reported by the committee, provided authority for such regulation, he went on, adding that even this apparently was not enough from the viewpoint of "a great many people."

So, Harris proposed an investigation of gas transmission and distribution, including whether or not there has been "effective regulation" by the state public utilities commissions in the interests of the consumer.

Rep. John Wolverton (R., N. J.) suggested that the inquiry also include producer costs, pointing out that not a single producer had testified at the hearings.

New Law Could Limit Imports

The new reciprocal trade law extension could be used to restrict imports of residual fuel oil as well as crude oil if the Eisenhower Administration is so minded.

Included was a substitute amendment for the proposal of Senator Neely (D., W. Va.) that would have limited oil imports to 10% of domestic demand, plus a specific 10% quota on residual.

Meanwhile, the Interstate Oil Compact Commission has called upon President Eisenhower and Congress "to bring about reduction in imports of oil," unless the importers cut back voluntarily.

Leaders of the coal industry, who have been predicting dire results if residual imports were not cut back, are somewhat embarrassed by the fact that coal production this year may top 1954 by 20% or more, despite an increase of about 25% in residual imports during the first five months of this year.

While the new legislation undoubtedly gives the Administration power to restrict imports, it is surrounded with if's.

With coal production up, and oil importers indicating that they will voluntarily hold imports to 1954 ratios with domestic production, the Administration may be able to resist the pressure for governmental action to limit imports.

Oil Compact Extension Voted

Both the House and Senate have now voted for another four-year extension of the Interstate Compact to Conserve Oil and Gas—but with a proviso that the U. S. attorney general shall report annually on whether or not state activities under the Compact have been "consistent" with Article V, which among other things, expressly disclaims any intent to limit production of oil or gas "for the purpose of stabilizing or fixing the price thereof."

'Giant Inch' Plan Proposed

Texas Eastern Transmission Corp., which bought the government-built "Big Inch" and "Little Inch" pipelines and converted them to natural gas after World War II, has submitted detailed plans for stepping up their standby oil capacity to about 875,000 barrels daily from the Gulf Coast to the East in case of war.

Something like half of the 375,000 B/D capacity of the "Little Inch" would be put into common carrier oil service as soon as the Federal Power Commission approves substitute gas facilities.

The "Big Inch" would be kept in gas service until needed for oil in an emergency. Texas-Eastern would enlarge other lines to take over the gas load from "Big Inch."

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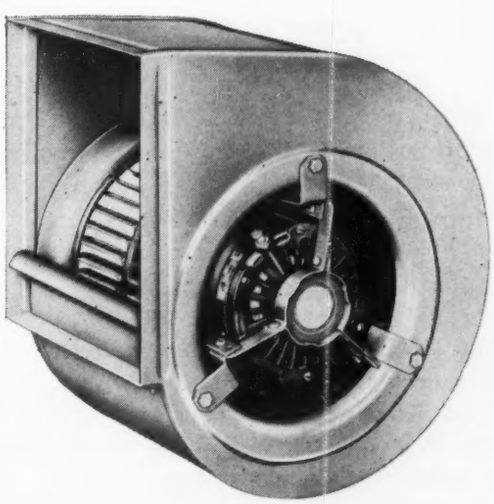
But perhaps you've heard about it! These days, it's difficult to keep a good thing quiet, unless of course the good thing happens to be Utility's Direct Drive Blower. This silent partner of maximum airflow is equipped with Neoprene hubs which isolate motor noise and vibration. Adaptable to the manufacture of heating, cooling, refrigeration and ventilating equipment, Direct Drive Blowers are designed by Utility engineers to keep things quiet, to make this equipment easier to sell to your customers.

Why not whisper this interesting news to your suppliers. If they'll listen to reason — and that's about the only thing they'll hear with Utility's Direct Drive Blower — you'll easily sell them on the money-making idea that silence is golden — for them and for you.

There's a lot more to the Utility story that also doesn't meet the ear. Utility Direct Drive Blowers take less space, have no unnecessary accessories and can be speed controlled easily. And while Utility's techniques are advanced, costs are not.

Get the maximum sales appeal of silent operation in the equipment you handle. Always check to see that Utility's no-noise Direct Drive Blowers are part of this equipment. Cash in on this "hush-money" with every unit you sell.



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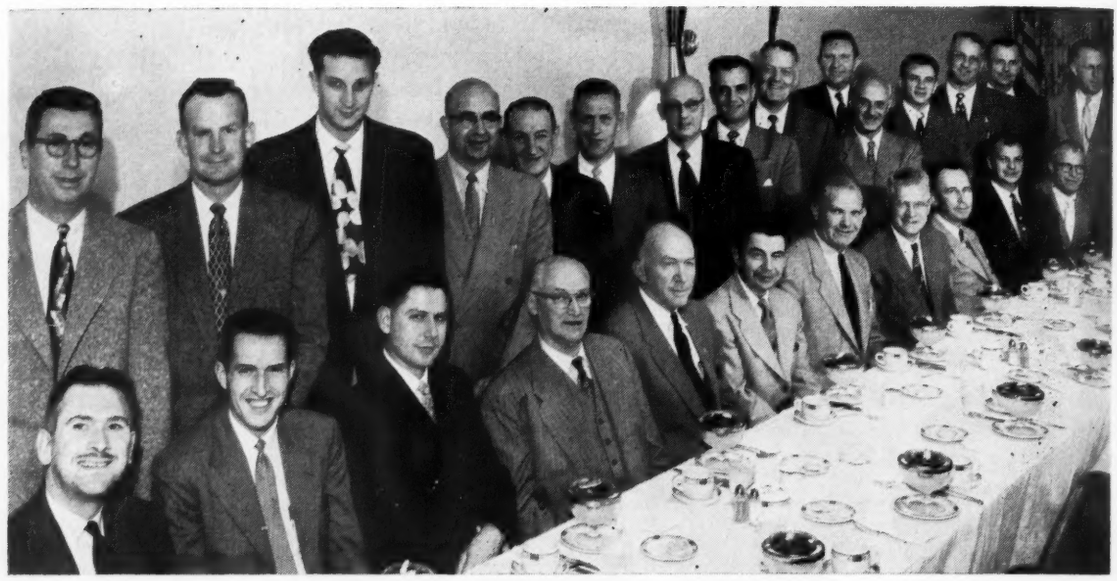


"Working Party" *for the Oil Heat Institute of Washington includes advertising committee members, Board of Trustees and representatives from the organization's advertising agency.*

Standing from left to right: *Leo Thomas, Seahurst Oil Co.; Bill Cameron, Cameron Heating Oil Service; George Glavin, Pacific National Advertising Agency; Willard Bennett, Service Fuel Co.; Grant Merrill, advertising agency; Burton Bowman, Olympia Oil & Wood Products; W. G. "Jerry" Warrington, Rossoe Mfg. Co.; Robert G. Elmslie, managing director; Frank Saunders, Tide Water Associated Oil Co.; John A. Hall, Watson-Hall Co.; Harry M. Myers, Bremerton Oil Co.; Elgin E. Pritchard, assistant to managing director; Paul Kinune, Western Fuel Co.; Roy Sievers, H. O. Seiffert Co.; and Herman J. Stelling.*

Seated from left to right: *Trevor Evans, advertising agency; Bob Hayward, Griffin Fuel Co.; Jack Galbraith and Mark Dolliver, Service Fuel Co.; Cliff Olson, Tacoma Fuel Dealers Assn.; Ray Pochel, Distributing Co.; M. N. "Mose" Vining, Diesel Oil Sales Co.; F. P. Griffin (president), Griffin Fuel Co.; and Cliff Moses, Richfield Oil Corp.; C. B. Grenier, Grenier Distributing Co.; Ted Clarke, Northwest Fuel Co.*

WASHINGTON gains public APPROVAL

Oil Heat Institute of Washington

Robert G. Elmslie Managing Director

THE OIL HEAT Institute of Washington stems from the Oil Fuel Dealers' Credit Association of Seattle, which was organized in 1929, officially incorporated in 1933, and whose membership now represents some 85 firms, with all members active, alert, and nothing "rubber stamp" about any of the meetings.

Monthly membership dinner meetings are held on the third Tuesday of each month (except during June, July, and August), with between 75 and 100 dealers in attendance at these meetings. Two social events are annual affairs — a Christmas party to which the ladies are invited, and a golf party in the month of August.

The OHI places great emphasis on a coordinated advertising program to promote the gospel of oilheating throughout our marketing area. Trustee meetings are held in July, October, and January and at this time the Advertising Committee also formulates the advertising program for the year. To get proper coverage, we use all media — newspapers, newsletters, radio and television spots, statement stuffers, billboards, and special coverage, such as consumer surveys to pinpoint consumer reactions. These Advertising Committee meetings are real workshops, with all members contributing suggestions to get the most effective copy and promotional materials.

We feel our program has been successful, despite the increased competition of electric heating. According to the most recent consumer survey of the *Seattle Times*, the preference for oilheating in this area has moved up again to 83.8%, a gain of almost one percentage point in the past year.

At present we are broadening our cost study program. A special committee is working out details and

actual ledgers for a uniform cost accounting system that will tie in with the standard reporting forms used in cost study. We prefer to await the full development of this material before making formal announcement. If we accomplish the plan as we visualize it today, the Institute will print, stock and have available to members this uniform accounting system, with ledger sheets, general ledgers, and everything in bookkeeping materials needed to make possible uniform accounting procedure and a real cost study program.

Management Seminar

Our management seminar, held June 15, 16 and 17, proved to be of great help to the individual dealers attending. Our projected day school for oilburner servicemen training will fill another urgent need in the industry. These projects, with others still in the planning stage, strengthen all our dealer members.

These general programs could not be successful without the direct support of strong local dealer groups, such as the Bellingham, Bremerton, and Everett dealers, headed by Rex Rowland. Other especially well-knit local groups are Spokane, Tacoma, and Yakima. Leon Boyle is president of the Spokane association, with Joe Langdon serving as secretary. Ray Pochel heads the Tacoma group, assisted by Cliff Olson as secretary. Nels Haddix, Economy Fuel, is president of the Yakima Fuel Dealers' Association. Of course, the Seattle group gives much support through the Oil Fuel Dealers' Credit Association, under the able leadership of Al. Flournoy, Seattle Diesel Oil Company.

All these strong, active, forward-looking dealer groups give us added confidence that in this area, we will not only meet the competitive challenge of any incoming substitute heat, but will advance oilheating generally, and increase the comfort and satisfaction of our present customers.

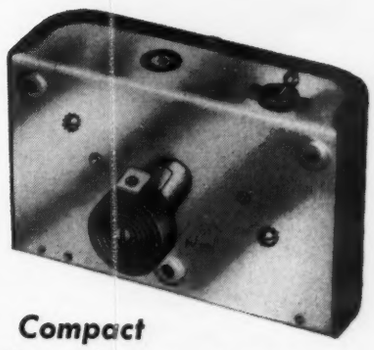
Officers of the association are Fred Griffin, Griffin Fuel Co., president; Flavin Croteau, Diamond Ice & Fuel Co., vice president; J. B. Huff, Western Fuel Co., secretary; and John A. Hall, Watson-Hall, treasurer.

CRISE CONTROLS

The *THIN* Model FAL20A2 Combination Fan and Limit Control with Summer Switch

Front View

Back View



Compact "Watch Spring" Type Bi-metal Element

Since the element in this Crise Model FAL20A2 is less than two inches deep, it will fit into a narrow space between the heat exchanger and mounting panel. Thus the control may be used where, because of space limitations, a more expensive remote stem has been required. Other features include easy to read dial and adjustable fan and limit settings.

Manufacturers of heating equipment are invited to write for samples and quotations.

CRISE CONTROLS DIVISION

ACRO MANUFACTURING COMPANY

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Mt. Hawley G-8
Oil Burner

You'll land more big-profit commercial jobs when you can talk about the owner-appeal values of the two biggest Mt. Hawley Oil Burners... and at a price up to 20% lower than competitive models of similar capacity. And you can handle any job from 5 gph. to 20 gph. with the Mt. Hawley G-6B or G-8.

SELL BY POINTING OUT:

rugged Marathon motor (½ h.p. on G-8)
big capacity Sundstrand pump

efficient, safe dual nozzle and ignition system
whisper-quiet operation through close-tolerance machining of all parts
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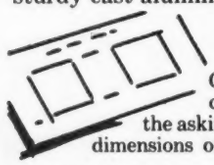

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I-B-R approves co-operative Promotion at annual Meeting

THE MOST IMPORTANT ACTION taken at the 40th annual meeting of the Institute of Boiler and Radiator Manufacturers, held June 1 to 3 at Absecon, N. J., was approval of a co-operative public relations program to sell boiler heating.

The step was taken after a comprehensive program was presented by a public relations counsel retained by representatives of the four trade groups which had formulated the basic aims of the venture. They had comprised a committee of one man each from the I-B-R, the Steel Boiler Institute, the Convector Manufacturers Association and the Boiler Division of the Gas Appliance Manufacturers Association.

Paul K. Addams, Fitzgibbons Boiler Co. and the representative from SBI on the committee, outlined briefly the background which prompted the initiation of the program, explaining that it was worked out to be an intra-industry cooperative effort "to sell a method of heating, to promote the sale and profitable volume manufacturing and installation of liquid heating and cooling equipment."

Previously R. E. Ferry, general manager of I-B-R, had stated the nucleus of what is now to be known as the Better Heating-Cooling Council was formed three years ago, with the idea of setting up an organization to convince homeowners and builders of the advantages of steam and hot water heating. In its present stage, he continued, the Council is a steering group and eventually will require a permanent organization to carry out its program. He emphasized it is not to be a new trade association, but will be merely a promotion agency, whose primary aim is education of the consumer and builder.

Initially the Council will seek support from the manufacturers of boilers and accessory equipment, including radiation and perhaps some branches of the cooling industry. Eventually support would be expected from wholesalers and dealers.

New officers *and members of the executive committee elected at the 40th anniversary meeting of the Institute of Boiler and Radiator Manufacturers: Standing: (left to right) D. F. Bennett, Gordon Bennett, T. B. Focke, D. J. Quinn, S. K. Smith.*

Seated: *(left to right) R. E. Ferry, Institute general manager; H. F. Randolph; E. R. Westphal, new vice chairman and G. L. Erwin, Jr., new chairman.*

Members *of the executive committee not shown are: T. L. Arnold, A. E. Bastedo, W. C. Murray and Carl Sahler.*

Combustioneer FURNACE LINE PREVIOUS SALES RECORDS!

No other line of furnaces can boast ALL of these great features:

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2. Extra heavy 10 and 12 gauge steel heat exchangers
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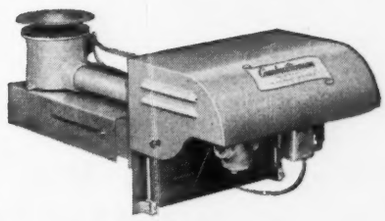
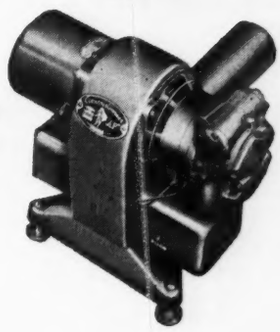
16. Heavy 20 gauge steel casing of sturdy construction
17. Painted inside and out
18. Full size filters
19. Large access doors

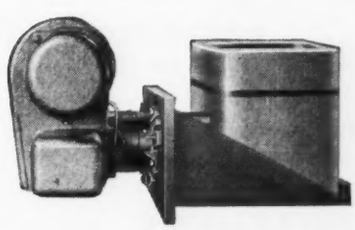
Competition can't touch the extra features of Combustioneer's oil and gas furnaces and conversion burners now backed by a 10-year warranty





Alternate Kits for Combustioneer Domestic Furnaces

GAS—The ultimate in efficient, quiet gas burners designed and developed to give greater heat diffusion on the heat exchanger walls. Burner is AGA Listed for all gases.



OIL—Shown is the Combustioneer High Pressure Burner with removable combustion chamber. Burner incorporates patented Triple Velocity Visorhead for more complete combustion.

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This new Third Edition contains much more data than the second edition which was published many years ago. The size is 8¼ x 11¼ — very handy and convenient, it contains more than 200 pages and carries ratings on domestic heating boilers up to 3,000 sq. feet of steam and equivalent Hot Water.

All ratings are taken from the Manufacturer's own statements of specifications and technical information.

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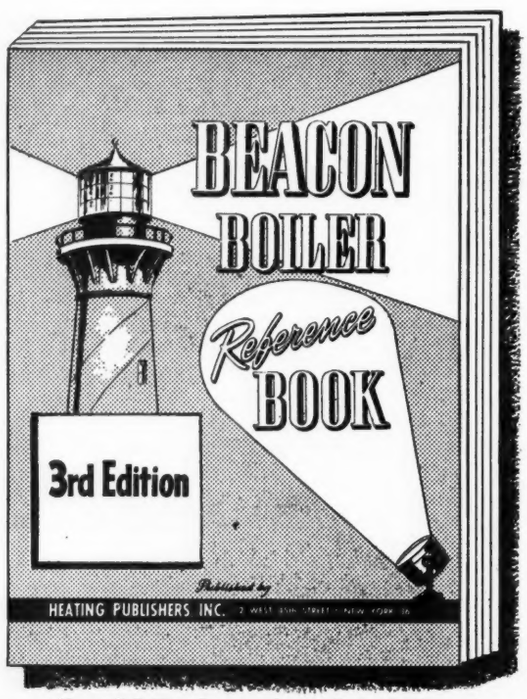

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Stephen Fitzgerald, public relations counsel retained by the exploratory committee, also appeared on this program on the last day of the convention and presented a proposed public relations campaign his organization prepared for the Better Heating-Cooling Council.

He pointed out that there existed ample precedent for the establishment of the program, since many industries have done so since the war to sell their products collectively, rather than by trade name. Fitzgerald recounted several encouraging factors that not only lend hope that the plan would be successful but also indicated the strong need for it.

For example, he observed the population now is in excess of 164 million and that all indications point to a 35% increase by 1975 when the population should reach 221 million. Then housing starts are running about 1,400,000 a year so that again by 1975 there will have been a total of 28 million housing starts. Added to the rising income level and the existence of a potential modernization market of from 500,000 to 700,000 homes a year, Fitzgerald concluded that the outlook for the program's success was optimistic.

More specifically, the basic themes of the program, he explained, would cover the story of quality, low operating cost, health factors, steady and quiet heat, adaptation of cooling, cleanliness and the resale value of homes equipped with boiler heat. Principal methods of disseminating the Council's promotion, he continued, would be magazine articles, material published in general, trade and technical publications, national and local news items, exhibits and model homes, mailing pieces, market studies and round table forums.

The Council's program, Fitzgerald declared, would not duplicate other efforts which are aimed generally at promoting the activities of specific groups or companies. The entire program is based on an annual budget of $250,000, divided for the first three years into a budget of $100,000 for the first year, increased to $150,000 the second year and $500,000 the third year. Thereafter, the budget would be stabilized at an annual outlay of $250,-

The security of Quality

The man who depends on his heating dealer's judgment is in good hands. His home will enjoy the security of quality — its safety, economy, dependability. A record of more than 15,000,000 Field Draft Control installations stands as proof of your unwavering loyalty to quality.

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FIELD TYPE "M", domestic, commercial, and industrial models for oil and coal fired heating plants. Sizes 6" through 9".

FIELD TYPE "MG", double acting models for commercial and industrial gas fired heating plants. Sizes 8" through 32".

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000. Financing is to be accomplished by contributions of one-tenth of 1% of gross sales from manufacturers of the four participating organizations. Fitzgerald explained that 75% of the contributions would be held in escrow until the Council was organized and established on a permanent basis.

Each organization—I-B-R, SBI, Convector Manufacturers and Boiler Division of GAMA—would appoint three or four representatives to serve on the Council's board of directors.

Approval of the Council's program was voted without dissent and Institute members voted to authorize its chairman to appoint I-B-R representatives to serve on the board.

Officers of the Better Heating-Cooling Council are: Paul K. Addams, Fitzgibbons Boiler, president; Robert W. Lear, American-Standard, vice-president; Robert Ferry, I-B-R, secretary-treasurer. Other members who participated in the formation of the Council included: Robert S. Rickabaugh, representing the Convector Manufacturers; H. Leigh Whitelaw, GAMA and Robert A. Locke, SBI.

Norman P. Mason, Commissioner, Federal Housing Administration, was the first speaker during the June 1 general session, being introduced by H. F. Randolph, vice-chairman of the Institute. Mason described the continuing high building rate, increased number of family formations and resulting demand for homes, as encouraging, because "We are experiencing a revolution in income and with today's credit terms, these young families are able to purchase early in life the kind of housing they want."

Mason stated that the present rate of construction is not too high because demand will continue high and "this country will swallow all that we're building and come back for more." And, "Translating all this discussion of the housing market into terms of boilers and radiators, I'd say you can count on high gear production for some time."

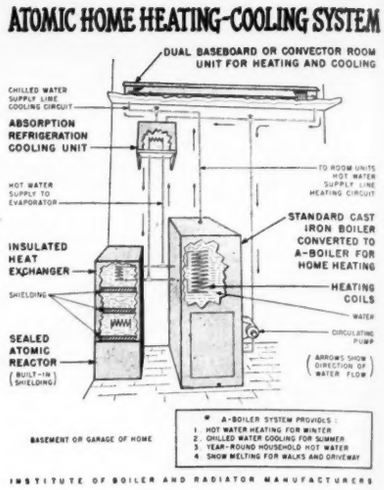
Other portions of his talk underlined the importance of modernization and paid tribute to the help that I-B-R has given FHA in establishing standards, to the end that FHA uses the Institute's test codes and installation guides "in our minimum property requirements."

Concluding, Mason stated, "I'm counting on your research teams, engineers and designers to continue to bring to the public better heating than ever before. It's just one more reason why the outlook is rosy."

During this same session there was a report from Prof. Warren S. Harris, University of Illinois, on the I-B-R Research Program and an address by R. S. Dill, National Bureau of Standards.

Also, Virgil Good, Burnham Corp., was named chairman of a committee to present nominations for Institute officers. The following day, Good proposed the following nominees who were elected: George L. Erwin, Jr., Crane Co., chairman; E. R. Westphal, Weil-McLain, vice-chairman; R. E. Ferry, treasurer. Named to the executive committee were: D. J. Quinn, A. E. Bastedo, T. L. Arnold, H. F. Randolph, T. B. Focke, S. K. Smith, Carl Sahler, W. C. Murray, Gordon Bennett and D. F. Bennett.

General manager Ferry delivered the keynote address for the meeting, in which he forecast the possibility of a home-sized atomic powered heating


ATOMIC HOME HEATING-COOLING SYSTEM
DUAL BASEBOARD OR CONVECTOR ROOM UNIT FOR HEATING AND COOLING
CHILLED WATER SUPPLY LINE COOLING CIRCUIT
ABSORPTION REFRIGERATION COOLING UNIT
TO ROOM UNITS HOT WATER SUPPLY LINE HEATING CIRCUIT
HOT WATER SUPPLY TO EVAPORATOR
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(ARROWS SHOW DIRECTION OF WATER FLOW)
BASEMENT OR GARAGE OF HOME
* A-BOILER SYSTEM PROVIDES:
1. HOT WATER HEATING FOR WINTER
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3. YEAR-ROUND HOUSEHOLD HOT WATER
4. SNOW MELTING FOR WALKS AND DRIVEWAY
INSTITUTE OF BOILER AND RADIATOR MANUFACTURERS

Sketch *shows basement of average home with A-Boiler system installed. Shielding makes the reactor completely safe in this new concept, the first proposal to put atomic energy to work within the home. The system is a practical possibility now, lacking only an adequate supply of fissionable material. Except for the reactor and heat exchanger, all other equipment to be used with the atomic home heating-cooling system already is on the market.*

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be sure to say *Eddington*

. . . the new Oil Burner Nozzle that you can depend on to keep your customers happy, and save time for you, too.
Note the new hexagon style dust proof canister designed to protect the small orifice of Eddington oil burner nozzles. Tip of nozzle is held away from bottom of canister. Each canister identified on top-Hollow Cone, red—Semi-Hollow, green—Solid Spray, blue. Another Eddington first!

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boiler as "a practical reality" within a few years. Ferry described the system as one that could heat and cool the home for approximately 6 years on a single charge of fissionable material hermetically sealed within the multiple-shielded "portable" reactor. Cost for the six year charge is estimated at about $300 and the reactor, about twice the size of an auto battery, would be replaced with another sealed unit at the same price after its charge had been exhausted.

Industry experts, including Frank L. Phillips, New York consulting engineer with wide experience in heating, airconditioning and Atomic Energy Commission projects, Ferry pointed out, agree the "chief foreseeable problem holding up availability of the A-Boiler system is the need for adequate supplies of fissionable material at economic cost." Engineering knowledge of design, material and shielding, he continued, "appear to be no longer a problem" and improvements in controls and safety devices can be expected.

Summer cooling with the A-Boiler system would be accomplished by addition of a small absorption refrigeration unit, with chilled water piped to forced convectors or dual baseboards. In winter, the same sealed piping circuits, a non-radioactive heat transfer medium, would carry hot water as in conventional systems today. A boiler coil would provide domestic hot water and snow melting systems could be added. Designed for installation in new or existing homes, a conversion job is estimated to cost about $1,000 and a complete new installation about $1,500.

Ferry pointed out that this development, "marks the first advent of atomic energy literally into the homes and lives of the American people." Heretofore atomic power has been terrible and remote, with few of its non-violent applications understood, he added, but, "Now comes the A-Boiler, which promises to add a giant stride toward the goal of a more satisfying, comfortable home life at less cost for Americans and, in time, for the entire free world."

Except for inadequate supplies of fissionable material the A-Boiler could be produced today, since all equipment and components, with the exception of the reactor and heat exchanger units, are on the market now.

George L. Erwin, Jr., newly-elected chairman of the Institute and vice-president of Crane Co., delivered a major address on the morning of June 2 covering the topics of advertising, merchandising and promotion. Urging his listeners to "Give the Lady what She wants" in new and improved products, Erwin emphasized the need for better selling methods and more aggressive promotion and advertising to reach and convince the customers.

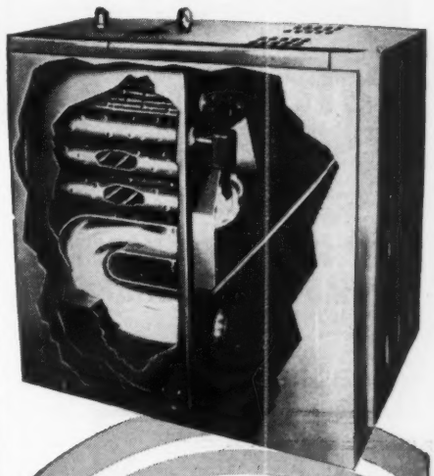
In essence, he developed the theme that as an industry, heating equipment manufacturers must change their sales approach with the aim of changing the customer's mind and inducing "the little lady to insist on hot water heating for winter and chilled water cooling for summer." "We must raise our sights," he concluded, "we must think up new ideas, we must borrow ideas from smart manufacturers and smart retailers. To keep abreast, we must think better, think harder, exert more effort, move faster, spend more money, do more advertising, do better selling."

A report on the Institute's public relations and promotion program was made by Franklin Greene, public relations director. N. J. Radder, secretary, Plumbing and Heating Industries Bureau, discussed other aspects of industry promotional work.

Another general session on June 2 heard addresses from representatives of contractors and wholesalers associations. These included Lloyd B. Gruman, Jr., Heating, Piping and Air Conditioning Contractors National Association. In his brief talk Gruman observed that half of the homes in the country have central heating, with better than two-thirds of these equipped with gravity or forced warm air. Boilers dominate the commercial and industrial field, he continued, and there exists a good opportunity to increase the sale of boiler heating equipment in both new and existing homes.

George P. Nachman, chairman of the same Association's Boiler Output Committee, explained the work of the committee, pointing out that it provides a meeting ground for members

THE NEW YORKER
HORIZONTAL BOILER
...offers you top efficiency and economy!



The NEW YORKER horizontal tube boiler provides top heating efficiency because of its scientific "three-pass" design, offering maximum heat transfer and lowest stack temperature. All heat passages are surrounded by heat-absorbing surfaces. Beautifully jacketed in blue-and-gray hammertone finish.

- Oversize, large capacity tankless water heater.
- Fire-tubes of extra heavy gauge steel.
- Pre-cast combustion chamber withstands temperatures up to 3200° F.
- Fire-tubes easily accessible.

Send coupon NOW!

New Yorker Steel Boiler Co., Inc.
Colmar, Penna.

Gentlemen:
Please rush me full information and prices on the New Yorker horizontal tube boiler!

Name .....
Street .....
City ..... State .....
Type of Business .....

SAVE TIME ON THE JOB
•
SAVE FUEL FOR YOUR CUSTOMERS

Install

NU STANDARD KOLBKAST COMBUSTION CHAMBERS

Here's why you'll save time on the job, fuel for your customers when you install NU STANDARD Kolbkast Combustion Chambers:

- there are only six pieces to assemble
- tongue and groove construction fits together quickly, snugly
- galvanized steel bands draw the assembly tight—prevent gas loss and improve combustion efficiency
- the base, recessed ¼", provides an air space that gives better insulation to the floor
- millions of air cells in the structure of the chamber itself retard the transfer of heat through chamber walls
- insulating properties are equal to insulating brick

The NU STANDARD can be used with high or low pressure burners and it is available in five sizes to meet all your requirements. Shipped complete with steelbands and scientifically packed to prevent breakage. Shipping weights are low.

Get full details today on these low cost chambers.

KOLB REFRACTORIES CO.
MEADOW & JACKSON STREETS
PHILA. 48, PA.

KOLBKAST
INSULATED
CHAMBERS

and non-members of I-B-R to induce non-members to conform to Institute standards.

George T. Underwood, executive secretary, American Institute of Wholesale Plumbing and Heating Supply Associations, discussed collaboration between wholesalers and manufacturers. He contended that manufacturers must provide well-designed and tested equipment and must establish a sales policy that will enable the distributor to operate effectively. If a manufacturer elects to sell through distributors, he said, the manufacturer should make this known and adhere to it.

The American Institute program, he went on, encompasses industry relations to recount the services that wholesalers render, including sound slide sales training program and a business conference program.

J. H. Peery, secretary, Central Supply Association, described the functions of a wholesaler as distributing products from manufacturer to the dealer better than the manufacturer and at a lower cost. He needs sufficient capital, a warehouse, efficient credit and sales departments, a line of products his customers need and must make a reasonable and legitimate profit.

General Manager Ferry, returning to I-B-R functions, outlined the school program of the I-B-R and the new program of Technical Secretary Arthur L. Wales in working out a complete heat loss calculation guide, another guide covering piping and a third on cooling calculations.

Wales himself then was introduced and explained that revisions of present I-B-R Guides and publication of new ones reflect improvements and progress in equipment design and application. Another objective in the revisions, he declared, is to provide information that will enable the "newcomer" to design systems according to the Guides.

The I-B-R Guide H-20, to be published during the summer, will cover heat loss calculations and has been prepared to enable the user to learn while doing. It also can be used in study courses and even for self-education. Guide 700 on steam and hot water heating systems for residences will contain sketches of systems and will include one correct method for piping each system.

The cooling guide, C-30, is being compiled now to provide a useful handbook for installers.

Wales then briefly described the short courses, sponsored by the Institute. In May one was held for 50 students at Purdue University, another took place about the middle of June at the University of Illinois and a third is scheduled for the University of New Hampshire in August.

He pointed out the real need for such instruction and said that in the interest of promoting steam and hot water heating, the Institute will combine all the experience gained from the courses held or to be held and prepare a package deal which would be more comprehensive and yet flexible enough to be used in the various area of the country.

The semi-annual meeting of I-B-R will be held at Seaview, Absecon, N. J., November 9 to 11. Major portion of the program will be devoted to Institute business and future planning, with the possibility that one general session might be included.

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"Action" Campaign aims at neighborhood Improvement

"ACTION," a campaign which takes its name from the American Council to Improve Our Neighborhoods, is a non-profit, non-partisan organization aimed at the elimination, at the source, of those factors which cause homes, neighborhoods and communities to decline in livability and value.

Divided into three basic sections, Action's method of operation is as follows: 1. Research, or gathering and providing information and facts upon which further action can be based; 2. Public Information and Education, pointed at creating awareness of the slum problem, and motivating individuals to take action; and 3. Field Service which provides on request, specific assistance to communities or areas that wish to take direct action.

Presented at the national conventions of the National Warm Air Heat-

(Please turn to page 68)

fueloil & oilheat

To clean or not to clean....

Oilburner Nozzles, that is—A Viewpoint on the Merits of cleaning or changing

by

Eugene O. Olson*

WHAT IS THE AVERAGE life of a nozzle?

How is the best way to clean nozzles?

How often should a nozzle be changed on a domestic high pressure burner?

These questions are asked very frequently in service groups when the discussion turns to nozzles. The answer to all of them begins with "That depends . . ." and leads into a discussion of all the evils that befall nozzles and the good people who service them. In order to get at the answers, let us for the moment classify nozzles into four groups which will give us a starting point for discussion.

1. NEW NOZZLES

All nozzle manufacturers make a sincere effort to ship nozzles which are perfect, both as to their performance and as to their cleanliness. We would like to be sure that 100% of the nozzles we ship will operate perfectly. It is readily realized, however, that since nozzles, like any other equipment, are made and tested by human beings and are turned, drilled, and milled from metal, there is always present the possibility that the product might not be as perfect as it seems.

It is possible, therefore, that upon installation in a burner . . . or within a matter of weeks or days after installing a nozzle in a burner . . . it might have one of its small oil passages plugged by a piece of lint or by a metal chip from the nozzle parts or the strainer parts and cause erratic combustion.

Nozzles with this fault can be cleaned to good advantage very readily simply by blowing out with filtered compressed air or by rinsing in clean solvent. This condition occurs on so few nozzles, however, that it is not generally thought of as a nozzle cleaning program.

2. YOUNG NOZZLES

A second classification includes nozzles which have operated for part of a heating season and have accumulated enough sludge and gum in the slots to interfere with their operation, but this sludge is as yet loose and not baked in. A nozzle in this condition can usually be rinsed off in clean solvent or blown off with filtered compressed air and it is like a new nozzle. An occurrence of this kind is not very frequent if proper line filtering is provided and if the fuel is reasonably clean and free from sludge or contains an effective additive.

3. MIDDLE AGED NOZZLES

Still another classification includes the nozzles which have been on a burner through a heating season and are still in operative condition when the serviceman arrives for the summer clean-up. These burners have been supplied with a good grade of fuel and have been properly protected by adequate filtering. The only evidence of contamination in the nozzles is a coating of yellow varnish on the surfaces of the nozzle which is most evident on the outer face next to the orifice.

These nozzles in Group 3 when placed on test show a decrease in the flow rate because of the varnish build-up in the slots and swirl chamber. They also might indicate a change in the spray angle due to varnish build-up at the outer edge of the orifice. They could show a tendency also to drool on the start and on shutdown because the sharp outer edge of the orifice has been rounded off by this varnish formation.

These nozzles can be cleaned with the proper solvent, but in order to make sure that the nozzle is in A-1 condition, it would be necessary to spend considerable time and it would be desirable to have a microscope to examine the parts to be sure that the nozzle is in new condition.

4. OLD NOZZLES

This classification of nozzles includes those which have been in service long enough or under service conditions severe enough to have sludge, gum, and varnish baked in them. These contaminants, of course, interfere with the flow of oil through the slots, swirl chamber, and orifice. Nozzles in this category also usually have a layer of baked varnish and carbon on the outside which might interfere with the proper operation of the nozzle orifice.

This type of nozzle contamination can probably be corrected, but the operation is a lengthy one and at best leaves some doubt as to whether all of the deposits have been removed. Such a nozzle after cleaning will probably have some of the coating in the threads or other parts of the nozzle which may be knocked loose upon reassembly, thus recontaminating the nozzle or leaving the possibility of a future service call due to contamination.

In speaking of the life of a nozzle, or how often a nozzle should be changed to insure good operation, all of the above conditions must be taken into account.

Actually, after examining a great number of nozzles under a high powered microscope, we have found that from the standpoint of distortion of the metal a nozzle used under normal

*Chief Engineer, Delavan Mfg. Co., West Des Moines, Iowa.

conditions in a domestic oilburner will last for years.

The first place that any sign of erosion occurs in a nozzle is in the swirl chamber. Neither the slots nor the orifices are measurably enlarged because of use. We have found, however, that in actual use the discharge from a nozzle always becomes less than the original rating. This is due to the build-up of varnish from the fuel in a high temperature atmosphere, reducing the area of the slots.

This happens regardless of the quality of the fuel and even happens with fuels such as gasoline or any high quality solvent under severe conditions. The higher the operating temperature, or, more correctly, the higher the temperature after shutdown the more rapid is the formation of this varnish in and on the nozzle.

Varnish Coating

We have nozzles which have been taken from showroom samples of oilburners which never have been installed. These burners were fire tested at the burner factory and the nozzle left on the burner. While in transit and while standing on the showroom floor, the oil which remained in the system oozed out through the nozzle orifice and spread over the face of the nozzle. The varnish coating created by the oxidation of this oil is enough in some cases to completely close the orifice and makes a stainless steel nozzle brown.

We mention this to indicate that as long as fueloil is in contact with a nozzle this varnish formation continues and reduces the discharge rate and in some cases cause streaks in the spray and might even distort the spray entirely.

While varnish is being formed in the nozzle, sludge is also being formed in the oil and this will deposit on any surface where it is permitted to build up. Since the slots in fractional gallonage nozzles are small, it is logical that this sludge should build up there.

In all the nozzles which we have examined, any damage to the slots or orifice has been done by trying to clean the nozzle. The erosion which we have found in swirl chambers has not been enough over a period of five years' operation in a normal installation to cause any distortion of the spray pattern. In cases where nozzles have operated at extremely high temperatures, such as in foundries, and in few cases in bake ovens, the erosion has been much more severe. The probable reason is that erosion is not due to impingement of liquid on the surfaces of the nozzle but to a phenomenon known as cavitation. This phenomenon usually occurs at operating oil temperatures which approach the boiling point of the liquid. That condition rarely, if ever, occurs in a domestic oilburner.

What we have tried to point out is the fact that generally nozzles do not wear out. This might indicate that it would be economically feasible to leave a nozzle in a burner for many years and simply clean it when necessary. It has been found, however, that this cleaning process can be quite expensive. Also, as has been pointed out before, it may be unwise to leave a nozzle on the burner when the future performance of the nozzle is very doubtful.

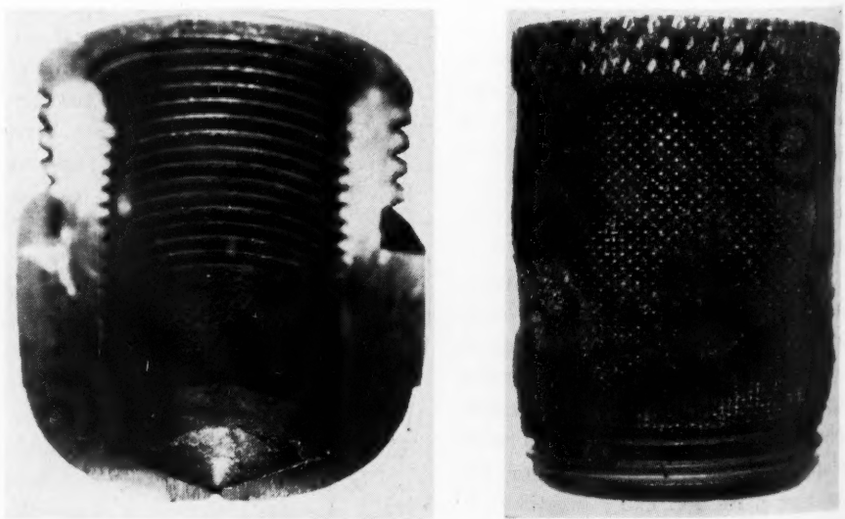
Since 1948 we have noted a growing tendency to put the classifications "3" and "4" above into the category of "Has Beens." We have found that many service organizations do not try to clean or recondition nozzles or even try to get along with a nozzle that is working satisfactorily after a year of operation. We have been told repeatedly by service people that the time involved in cleaning a nozzle in classification "4" costs more than a new nozzle and it is still a doubtful nozzle after reinstallation.

The time involved in inspecting and cleaning nozzles in classification "3" can be as much as the price of a new nozzle and here too the future performance may be doubtful. The frequency of callbacks in both classification "3" and "4" certainly indicates that a program of replacing nozzles is wise.

Random Sampling

In an attempt to find out what has been the experience and the practice of service organizations in various parts of the country, we have contacted a number of representative service people and have been somewhat amazed at the comments. Some of these service organizations were in the large metropolitan centers and some were in smaller cities. A random sampling was made of oil companies servicing oilburners, dealers selling equipment and servicing burners, and service organizations who install and service but do not sell equipment. The smallest company responding to the survey services 250 oilburners each year. The largest dealer contacted services 40,000 oilburners. A majority of the group surveyed service between 2,000 and 6,000 burners.

Following are some of the answers



Left: *Cut-a-way of a 2/5 gph nozzle which had operated at high temperature. This kind of nozzle never can be cleaned thoroughly.* **Right:** *Strainer from the same nozzle.*

to questions which were asked of these people:

1. Do you replace nozzles rather than clean them?—68% of those contacted said Yes.

2. Do you clean nozzles rather than replace them?—18% of those contacted said Yes.

3. Does changing nozzles instead of cleaning them save you money?

82% said Yes
18% said No

4. Does changing nozzles instead of cleaning save the customer money?

73% said Yes
27% said No

This does not mean that nozzles were changed everytime the burner was serviced nor at every summer clean-up. As a matter of fact, it appears that less than 30% of all the jobs get regular summer clean-up service. The changing and cleaning of nozzles as indicated above means that they were given the treatment when the nozzle failed for any reason. It is significant, however, that on contract service the percentage changing nozzles each year was much higher.

Apparently no complete correlation exists between the replacement policy and the wage scale. In the areas which have the lowest wage scale, some replace nozzles and some clean them. In the highest wage bracket areas a large majority of service organizations replace nozzles rather than clean them.

Brief Look at costs

A very brief look at costs may give some clues to the best policy. Among the companies interviewed, the average wage rate was $2.20 per hour. Obviously that is not the cost of keeping a serviceman on the job. There seems to be no general agreement on the labor cost in terms of overhead. We did find, however, that among those with whom the subject was discussed, the average multiplier to cover overhead and truck expense was approximately $1.90.

The picture, then, looks something like this.

Average Labor Cost 1.9 × $2.20 ..	$4.18
Cost to clean a nozzle	
½ hr. on a coked up nozzle ...	$2.09
¼ hr. on a mild case	$1.04
Cost of a new nozzle	$1.00

While very incomplete data are available on callbacks, an estimate of at least one callback in ten jobs where Class "3" or "4" nozzles were cleaned seems very conservative. That call, at the dealer's own expense, would add another 42¢ to the average cost of one hour service calls, thus increasing the average cost to about $4.60 per hour.

At this point it should be mentioned that the average service charge is very close to $5.00 per hour. The charge varies with the wage scale for the area. Overtime calls, of course, are higher because overtime costs are higher.

This writer does not presume to be either an accountant or an economist, but it would appear from these figures that it may be good economy on clean-up jobs to put on a new nozzle even though the customer is not charged for it. This assumes that the nozzle is in group "3" or "4." We are not suggesting, however, that new nozzles should be donated. Most customers expect to pay for what they get if they know why they are getting it.

Servicemen Shortage

While the reasons given for one policy or the other were expressed mostly in terms of costs, the service managers who were interviewed personally indicated that the shortage of competent servicemen puts a premium on their time and they cannot be permitted to spend enough time on the job or in the shop to clean nozzles. They arranged to save servicemen's time by having them carry an ample supply of replacement nozzles. Others indicated that even with plenty of competent help a new nozzle is good insurance against repeat calls as compared with a cleaned nozzle. They indicate that fewer call-backs not only saved them money but resulted in greater customer satisfaction and good will.

In answer to the question of what the customer's reaction is to changing instead of cleaning, the answers were largely as you would expect. Those who clean rather than change nozzles feel that they would be unfair to the customer if they were to throw away a nozzle which they know can be made to work. They feel that if they can make the nozzle work they owe it to the customer to do so.

Most of the service managers with whom this subject was discussed, however, felt that the customer can be educated to see the advantages of changing instead of cleaning nozzles. Some even considered it an opportunity to build good will. They reported that there had never been any particular difficulty in selling the idea.

Annual Cleanings

For many years conscientious service organizations have recommended annual cleanups of oilburner installations. The idea has been sold to discriminating customers, and it is generally agreed in the industry that the practice is good. Installation of a new filter cartridge has become a standard part of this annual service and now it appears that it is economically sound for the dealer and the customer to install a new nozzle at the same time. As we have seen, the practice is being adopted by more and more cost conscious service organizations. I might add that this movement originated with the dealers, not the nozzle manufacturers!

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May contract Awards up 13% says Dodge Reports

MAY'S DOLLAR VOLUME of contract awards for future construction was up 13% over last May, according to the F. W. Dodge Corp., which surveys the 37 states east of the Rockies. The total was $2,185,065,000 giving May the third highest monthly total ever recorded by Dodge Reports.

The five-month total of $9,727,562,000 set a new high record and was 29% above the corresponding figure for last year, the previous high. Residential building topped the billion mark, was 23% above the May 1954 figure and accounted for almost half of the total of construction.

Nonresidential building totaled $725,755,000; up 8% over last May. Public works and utilities totaled $448,000,000; up 5%.

Five month totals: Nonresidential building, $3,289,895,000; up 20% over the first five months of 1954. Residential building, $4,505,626,000, up 38%. Public works and utilities, $1,932,041,000; up 28%.

OILHEATING FOR BUILDERS

Part II. Sell the whole heating System and its Benefits rather than the Fuel

by
Irwin Jalonack*

IN ENDEAVORING to sell oilheating to a builder one must think of advantages to the builder rather than how desirable the sale is for one's self. This is a basic concept in selling but it is amazing how many times it is overlooked. Only rarely can a sale be accomplished simply because the prospective purchaser wants to oblige the salesman. Every word used should attempt to show the builder how he benefits in some way by using oilheating.

Factors which normally would be considered a disadvantage must be faced boldly and turned to advantage. Let us take, for example, the lower first cost of a gas heating installation as compared with oil. It must be explained to the builder that the public is generally aware that oilheating installations have a higher first cost but a lower operating cost and they will pay more or buy quicker if he has his house equipped with an oilburner.

The public thinks of the cost difference as quite high so that the builder has the advantage of this concept. The builder's own sales force can help you in this respect. They like things that make their job easier. It is, of course, well worthwhile to be on friendly terms with the builder's sales force as they can be of big help. The lower operating cost of fueloil is a powerful selling weapon in most areas for the builder, and he must be made to realize it.

Sometimes the free service offered by the utility company sounds like an advantage to the builder. The so-called free service is simply a sweetened way of talking about a package deal which includes a costly fuel. The fact remains that the total operating cost is still the thing to look at—and here the case is clear. Also, of course, competition in the oil and service end of the business assures the builder's customer of proper and prompt attention, whereas the utility company servicing gas equipment is without competition and frequently takes advantage of that situation.

On the political front it appears that controls which have inhibited a rise in natural gas costs are about to be removed and an increase can be expected as soon as this is done.

The new house purchaser can protect himself by buying oil—the fellow who, of course, will get hurt is the fellow who now has gas heat and the type of flue which is only approved for gas heat. In connection with these Type "B" chimneys, municipalities, some FHA offices and other housing agencies now are beginning to clamp down and insist on a chimney which will give the homeowner some flexibility. This must be pursued and will remove some of the first cost difference between oil and gas heating systems.

At first glance it might not be realized that the type of heating system (wet or dry) or the type of cooking range used is of considerable importance in steering a builder toward a fuel decision. Nevertheless, these factors are highly influential. If a builder uses wet heat, he does not need an auxiliary domestic water heating device. Automatic water heaters using gas are readily available and not very costly. This cannot be said equally of oilfired domestic water heaters.

Therefore, if no water heater is needed due to the type of system employed, the disadvantage due to the availability of the gas-fired water heater is removed. It is true that the usual automatic water heater of the tank type is apt to be galvanized steel and rustable whereas the instantaneous copper water coil in the average oilfired boiler is free from rust and early disintegration. In many areas a galvanized hot water heater corrodes out in less than one year. Even the more expensive lined tanks are apt to go quickly.

With the use of a wet heating system, the decision to use oil fuel is half won. The other factor that can help immensely is the use of electric cooking. With electric cooking, the builder doesn't need gas in his development at all, and he gets away from torn up streets, curb boxes, gas meters and other nuisances. He must have electricity in the house anyway and a little larger service doesn't really hurt him. The electric appliance people do a lot more advertising than the gas range people and the builder can take advantage of this and capitalize on it. The electric appliance man is an ally, and the oil heat salesman and he can work to their mutual advantage.

Admittedly with home sales relatively easy, the average builder has not concerned himself too deeply up to now in those marginal items of customer preference. The customer wanted a house badly and even without wet heat or electric cooking or oil fuel they bought it. It looks like sales are not going to be quite so easy in the future and the smart builder will have

Jalonack

*Jalonack retired this year as vice president in charge of construction for Levitt and Sons, the nation's largest home builders. He is now serving as a consultant to several clients identified with building and also with FHA in Washington.

his new houses ready with the things the customer prefers.

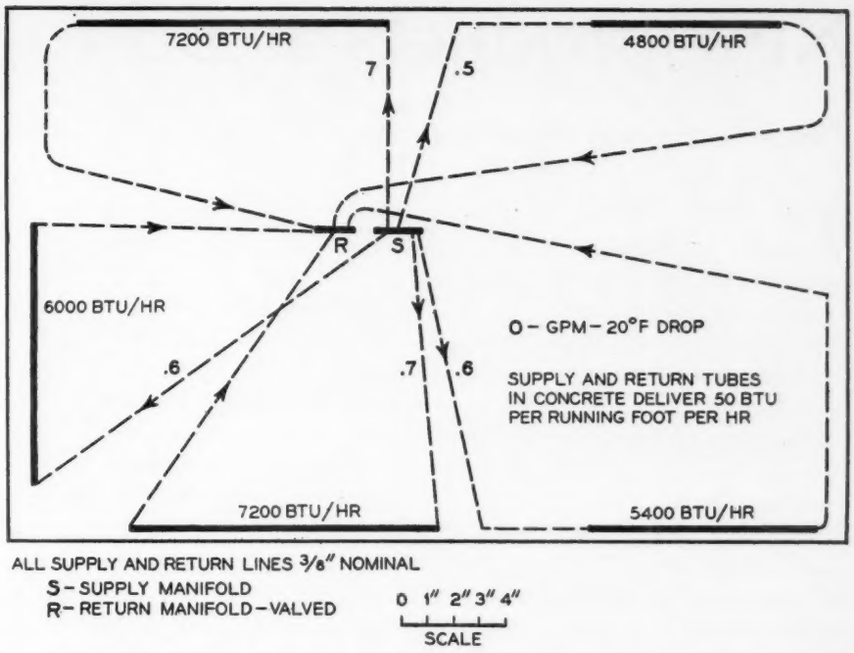
The outstanding example of ability to suit the public's taste in housing has been that of Levitt & Sons Inc., and we find there wet heat, oil fuel and electric cooking. At the present time the outstanding house selling success on Long Island is "Birchwood Homes." Again we find wet heat, oil fuel and electric cooking.

This is no coincidence. These are outstanding examples and done in the face of the world's keenest competition. Certainly it would have been cheaper on first cost for Bill Levitt or Morris Sosnow to use gas for heating and cooking but the idea was to sell houses which they did and are doing.

In discussing the favorable condition wet heat creates for the oil heat contractor, we have perhaps stepped on the toes of a few oil heat warm air advocates. We have no quarrel with warm air as a system—in fact it can be very good, but until this type of system furnishes domestic hot water from the basic equipment, it has little chance of taking business away from warm air, gas-fired equipment. I believe that warm air, oilfired systems will in general be found only where gas is not available or the gas heating rate is prohibitive.

For a long period the cost of a wet type heating system was not competitive pricewise with warm air even after adding the water heater cost to the air system. This is no longer the case, since convectors and baseboard convectors have been reduced in price. It is now possible to get a hot water heating system for approximately the same price as warm air with auxiliary water heater. As a matter of fact one of the largest of the very low priced home builders on Long Island, Alex Paulson, offers the customer his choice of air or water at the same price.

On one job in Philadelphia, it was possible to work out a lower price on water than with air. This was done by using a radial distribution system of piping to baseboard convectors. Full use of the circulator's pumping head was made so that the runouts to the individual baseboards were only ⅜" nominal tubing. Thus, labor and material were kept at minimums and individual room control was made available. Regular convectors could be treated the same way.



Layout *of radial distribution to baseboard convectors prepared by Jalonack and described in the accompanying article.*

On higher priced houses where people think some day of using airconditioning, the new forced air convectors suitable for heating and cooling lend themselves nicely. A few precautions must be taken such as insulating the supply lines against sweating and provision for a condensate drain. Otherwise this type of system has much to offer. Speedy pick-up, individual room control, relief from constantly rebalancing air flows, and a system that will function well for cooling as well as heating. The ordinary hot air system will not yield a decent cooling system, since the ductwork and distribution system is not designed for cooling.

It can be seen from the foregoing that more and more the entire heating system must be thought of, rather than just the firing device. After all the builder is concerned with the package and welcomes the chance to throw heating system and service to one party. Contrast this to the situation where the utility services the burner but stops there.

How does the homeowner know whom to call if there is a shortage of heat? He tries the builder who then must ascertain whether it's the heating man's fault or the gas company. The builder would rather not be involved. If he could simply refer all calls to one party—preferably directly—he would be much happier.

Because the type of system designed for the Philadelphia project mentioned in this article is rather unique and offers a most economical design of a wet heating system, we shall describe it in more detail. It is important to understand this type of design, because simply copying it without using correct engineering data, can lead to a poor job. On the other hand there is nothing complicated about it and its performance is excellent.

The house itself is a story and a half Cape Cod type on a concrete slab with rooms on both first and second floors. From a pair of manifolds centrally located in the house on the first floor a pair of ⅜" nominal copper lines are run radially to each baseboard convector. Since one gallon a minute of heating water with a 20° drop yields 10,000 Btu's the individual runouts could be sized to handle this amount of water because no single convector was rated as high as 10,000 Btu per hour. In this particular design ⅜" tubing was more than adequate as the pressure drop on ⅜" type "L" tubing is only about 8" per foot with 1 gpm.

The runouts themselves are imbedded in the concrete slab so that in

(*Please turn to page 152*)

New products at Boston

Two new gun-type Burners for No. 5 oil make news; Airconditioning emphasized

THE BOSTON oilheating show was doubly successful. On the one hand, the exhibitors were amazed and delighted because throngs of equipment dealers and fueloil men visited the booths—the visitors' enthusiasm ran at an alltime high.

On the other hand, the visitors were unusually pleased with this show—never has a show of this size displayed as many new and decidedly improved pieces of equipment. To report on all the new products would take much more space than is allotted to this article, hence this report on new products at the Boston show can cover only highlights.

Sponsored by the Oil Heat Institute of New England, this show bore the impressive name: 1955 Eastern Biennial Exposition of Oil Heat and Domestic Cooling. It was held at the Statler Hotel, June 7-10. Show visitors and exhibitors fortunate enough to obtain suites and rooms at this outstanding hotel had the great advantage of being able to remain indoors if they desired, for all the exhibits were on the mezzanine floor of the hotel.

During the show the weather obligingly put on a forceful demonstration of one of the greatest advantages of oil heat—heat was needed on the June days of the show, and lucky were the affected householders who could flick thermostats, run their oilburners for 10 or 15 minutes at a time to drive chill and dampness from their homes.

Rumor, probably true, had it that Fred Beckwith, exposition manager of the Boston show, arranged for a considerable number of degree-days for the period of the show. He did this mainly to spotlight oilheating vigorously during the show, but fortuitously he gave fueloil companies in many cities additional gallonage for which they were suitably thankful.

Headline makers at the show were two brand-new gun-type burners for No. 5 fueloil—exhibited by Sun-Ray Burner in one instance and by Weatherall Engineers in the other, to name in alphabetical order.

The Sun-Ray burners for No. 5 fueloil are expected to be in production in August—according to rumor. Models J-1, J-3, J-5, and J-7 (four sizes) will provide fire sizes of about 1.0 to 20 gph.

These Sun-Ray burners are interestingly described by the manufacturers' experts as having "converters"—the thinking has to do with converting No. 5 oil into lighter oil by reducing its viscosity.

These converters use electricity, of course; the smallest used in this line of burners uses 700 watts, the largest uses 4,000 watts. Examining one of the new Sun-Ray burners, you may find one converter located in the burner base, piped into the pump output line—another in the nozzle line in the gun tube. The converters have two automatic controls; flow of electricity into them is controlled automatically, and the burners can't start with the converters at unsuitable low temperatures following a failure of electricity.

A big point about these new Sun-Ray burners for No. 5 fueloil lies in their being made up of stock parts well known to men who service light-oil pressure burners (except for the converters, which are easily understood and serviced); that's to simplify service operations.

Installation of these new Sun-Rays is identical to installation of pressure burners except for providing electricity for the converters—ignition is straight-electric, no gas is used.

Weatherall Engineers have their own ideas on how to burn No. 5 fueloil in a gun-type burner. A study of their burner brings out the fact that much research-work, brain-work, and development-work have been put into it. This burner uses a pressure-atomizing return-type nozzle. The characteristic of this nozzle is that only part of the fueloil that passes through its atomizing slots is atomized and burned—some of the oil that has passed through the atomizing slots is not burned, but leaves the nozzle through its return line. A valve in the nozzle's return line controls the fire size or gph rate. Opening this return-line valve wider permits more fueloil to escape from the nozzle and decreases the gph firing rate; closing this valve increases the gph firing rate. Some nozzles of this type give seven-to-one variations in gph firing rates (biggest fire given by a nozzle is seven times the size of the smallest fire).

The Weatherall #5 oilburner at the show was equipped with a Minneapolis-Honeywell modulating control motor to adjust its gph firing rate automatically to match the load the burner carries—and had a 500-watt automatic fueloil heater. The Weatherall #5 oilburner comes in four sizes; Model HO-T, the smallest, fires 6.0 to 15 gph, while Model HO-C-1 (largest) fires 40 to 60 gph. These burners may be in regular production in about five or six months.

Scully Signal Company's important new product at the show was the FASLITE pilot torch for horizontal rotary cup burners and other commercial-industrial burners which have gas-electric ignition.

Scully cites Factory Mutual Laboratories: 60% of the explosions in automatic-lighted boilers occur during the "lighting-off" period. The Scully

STEWART WARNER
WINKLER
WM. STEINEN MFG. CO.
Silent Automa
Williams
KORTH
NEW IMPROVED
SHELL
COMMERCIAL VACUUM CLEANERS
BOSTON, MASS.
DONNELL & MILLER INC.
THING WELL
Only the Rich
can afford
poor heating.
NERAL ELE
DOMESTIC OIL-BURNER CONTRO
Rheem
BELL & GOSSE
ONLY WATER OFFERS ALL THESE ADVANTAGES
CLEAVER BROOKS

FASLITE is said to have new pilot-flame stability—it provides a hard jet-like flame highly resistant to air turbulence, thus is exceedingly reliable for preventing nuisance shutdowns in connection with pilot-flame supervision. This pilot has new "reach," the length of its gas flame being five times that of many atmospheric-type gas pilots. This is not an atmospheric-type pilot —it has a motor-driven air-injection system to provide primary air.

Dealers servicing commercial-industrial installations and having gas-electric ignition trouble certainly should learn all about the Scully FASLITE—that advice can't be given too emphatically to dealers troubled by unstable yellow gas-pilot flames which lack "character" and "determination," and to dealers who have been facing new gas-pilot troubles since new different kinds of gases have come into their cities.

Toridheet's pitchmen in the booth said you couldn't find any agitation at the Boston show except in one of their new exhibit pieces—a demonstration boiler having a glass plate at its water-line, through which boiler water could be seen "agitated" by some motor-driven gadget.

Toridheet's big new feature at Boston was its "Multi-Jet Blender," a truly unique air-handling system in the firing end of the gun tube of its pressure burner. To appreciate this, you've got to see it. At the show, you could see a giant-size model of it—in a gun tube which seemed almost two-feet in diameter.

Waltham Oil Burner Co., Inc., had something new under the sun, in its booths at Boston. New under the sun in several respects, that is. This forced-air furnace comes in two sizes. The smaller fires at .80 gph for ordinary winter weather, and at 1.10 gph for severely cold weather. An outside thermostat, usually set at 30°F. on northeastern installations, does the trick of switching the furnace from the lower to the higher firing rate.

Thus for mild weather this furnace is fired at a reduced rate—burner runs additional time and thus gives smooth, economical heat; further economy is gained because the stack temperature is reduced (by the lower gph rate) for most the heating season. The CO_2 is high for both flame sizes, for the primary-air rate shifts with the firing rate. Firing at its higher rate during severely cold weather, the furnace starts at its low gph rate—greatly lessening starting sounds and chances of starting pulsation.

To top off its unique features, this Waltham forced-air unit uses but one electric motor to drive its circulating blower, the forced-air blower of the oilburner, and the burner's fuel unit. A cfm-regulating device, not unique, reduces the rate at which are circulates when the furnace is not at its maximum temperature — eliminates chances of occupants' complaining about cold air blowing from warm-air registers, thus invites adjustments which give the benefits of continuous air circulation during all heating-season weather except the mildest.

A "built-in re-circulator" was featured in the booth in which the Everhot All-Copper tankless water heater was on display. Inside the casing is the regular tankless coil—plus an additional vertical pipe that provides the driving force to circulate hot water through a return-type system, so that hot water is obtained instantly when any faucet is opened.

Electrol featured a new flame-quieting adjustment—"Close your eyes, and turn this gadget until things sound as though the flame has gone out. . . ."

Story from Electrol's pitchmen: Homeowner, who wandered into show though he really should not have been there, showed interest in buying an Electrol conversion burner and asked how he could put it to work though he had only stoves in his house.

"Just buy a boiler to stick the burner into," the Electrol booth attendant told him. Pointing across the aisle to the Weil-McLain exhibit, the Electrol man said, "Get yourself a little cast-iron boiler, maybe, like the one standing there."

After eyeing the round cast-iron boiler with distrust for a few seconds, the home owner finally pronounced, "That thing sure seems awfully complicated to me!"

On display was a triple-threat set-up of a Burroughs Sensimatic accounting machine that proved to any comer it knows more about degree-days than any heating engineer. Any gal can touch the right buttons in an exceedingly simple fashion and come up with degree-day answer for the next delivery.

Heat-Timer had in its booth its new Robot-Eye Control system, which all commercial-industrial oilburner experts should know about. You set this for a slight haze—an exceedingly light

haze—in the flue gases. It automatically maintains this slight haze by (1) measuring the haze in the smokepipe or breeching electronically every few seconds, and (2) moving a damper which controls the rate at which the combustion air flows to the flame.

If the flame becomes white and there's absolutely no haze in the breeching, the Robot-Eye system starts to decrease the rate at which air flows to the flame—it steps the combustion-air damper towards its closed position a bit at a time, and takes a haze reading following each step. If the haze in the breeching becomes slightly excessive (so slightly that you can see no smoke from the top of the chimney) the Robot-Eye system opens the combustion-air damper step by step, again taking a reading following each movement of the damper.

The results are beautiful to combustion experts, for the burner operates using the least air that produces no smoke. Automatically, the CO_2 content of the flue gases is the maximum that it can be with no smoke in the flue gases. Of course, this Robot-Eye system is not for apartment-house boilers fired at 30 gph—it's for industrial jobs. Yet it fits the requirements of thousands of big jobs which now lack the benefits of modern combustion control.

Will "floor unit" become a standard term in the field of summer airconditioning? On show for the first time in the east was a floor unit made by General Air Conditioning Corp. of Los Angeles, Calif. Made in two and three horsepower sizes, this is as self-contained as a windowsill unit—is said to be able to condition an entire house (within its cooling capacity limit) though installation work includes no piping or plumbing, no ductwork, etc.

The "works" located just under the floor reminds you of a floor furnace, is about one-third the size of such a furnace. Jutting up through the floor is a unit made up of two things: (1) a conditioned-air supply register like an oversize warm-air baseboard supply register, and (2) a floor-type return-air register located in front of the supply register.

Condenser of the Tecumseh compressor is cooled by basement air, or can be cooled by air piped outside to rid basement of heat. Having "four to six times the cooling capacity of most window-type units," this floor unit worked out to be exceedingly interesting to oilheating experts who put value in a package job, easily installed, suitable for a home having an already-installed heating plant of any type.

New at the Boston show in the Fireye line (made by Combustion Control Division of Electronics Corporation of America) was an integrated control system for safe light-off and operation of multiple-burner boilers. This controls from one to four burners, which can use oil, gas, or gas-oil as fuels, and which can be ignited manually or semi-automatically.

Added to the well-known line of Mueller furnaces and announced at Boston are the 228 and 928 combination heating and cooling units, forced-air type naturally. The 228, for example, is fired at .85 gph, comes with either two or three horsepower compressor equipment. A big new feature, expected to make these units popular, lies in the owner's being able to buy the forced-air furnace with an extra-large jacket. One part, a dummy at first, can be fitted later with the equipment needed for complete summer air-conditioning.

Weil-McLain announced new "radiant hot-water heating engineered for comfort." A booklet covers radiant heat distributors located below large windows, etc. together with Windo-site radiators.

Thermoloc Mfg. Corp. was in Boston with two new products, a replacement transformer for gun-type burners with three secondary terminal blocks that permits it to be applied to 95% of all gun burners, and the Thermoloc portable stack control tester. Across the top of the tester are three voltmeters and one ammeter; below these is a row of seven colored signal lights. That gives an inkling of the completeness of this tester, which among other things can put any make and model of stack control through its paces.

Dole's exhibits included a new $\frac{3}{8}$" solenoid for water, 110-volt coil; and a new No. 100 non-adjustable water mixer, $\frac{1}{2}$" size which uses the Dole semi-solid power element. This is the same element used in automobile thermostats and washing machine mixing valves, of which Dole can boast of being the greatest producer.

Dole also brought to the Boston show new big mixing valves, sizes $1\frac{1}{4}$", $1\frac{1}{2}$" and 2", completing the Dole line in sizes from $\frac{1}{2}$" to 2".

Walker, famous for its draft regulators, announced at Boston that on September 1 it starts production on draft-inducer draft-regulator combinations, sizes 6", 7", 8", 9", and 10". A model was at the show. Suitable for installation on either a horizontal or vertical smokepipe, this inducer-regulator has a fan-cooled motor, and baffles to keep flue gases far from the motor. Bearings do not project inside the smokepipe, Walker booth attendants explained.

Taco's new product was the #500 Series adjustable tempering valve featuring a hermetically-sealed heat-sensitive element (no liquid, no bimetal, Taco emphasizes), sizes $\frac{1}{2}$" and $\frac{3}{4}$",

range of adjustment 115°F. to 100°F.

Hilken Heating Co. exhibited its brand-new Klear View gage-glass kit for steam boilers—a neat trick is used to keep the gage glass full of active water. Says Hilken, "The best boiler protection is a clean gage glass."

The National Radiator Company put great emphasis on its new idea of an above-the-boiler tankless water heater for hot-water type boilers. The "Heat Extractor Water Heater" is located above the boiler to take advantage of the natural tendency of hot water to rise. A "thermal circulation tube," which puts you in mind of a dip tube, does the trick.

Big feature of the Fire Dome boiler-cleaning vacuum cleaner was its throw-away bag. The Fire Dome was exhibited at the Boston show by M. D. Stetson Co., distributor.

American Tube Products, Inc. had an excellent display of its American Expansion Regulator for closed hot-water heating systems. Using this revolutionary new development, the American-Tube booth attendants declared, you need no expansion tank, no special fittings or gadgets, and no pressure-charging or similar headache jobs.

A flexible diaphragm does the trick, keeping the proper amount of air in the expansion regulator at all times—water from the boiler or heating system can't contact this air, thanks to the use of the flexible diaphragm. The device is shipped containing a charge of compressed air, which makes for a smaller device than would be needed otherwise.

Thatcher Furnace Company announced its new line of residential and commercial summer airconditioners at Boston. One big point about this line is that it permits you to add summer conditioning to any new or old warm-air system without using any water. Described as excellent for use where space is at a premium, this equipment matches the requirements of commercial installations such as offices, restaurants, and all kinds of stores.

Two units make up the new Thatcher summer conditioner. An air-cooled condensing unit is one of these—it contains the motor-compressor, condenser coil, receiver, and motor-blower set that sends air through the condenser. Thus it contains everything needed except the cooling coil, which is the second of the two units. Blower-cooling-coil units, housed in cabinets, are available for jobs which involve only summer conditioning—are not related to warm-air heating systems.

As was indicated at the start of this report on the Boston show, not all the new and greatly improved equipment items that appeared at the show can be covered in this article. This is a sampling job of necessity, because of space requirements in the magazine. Some new products on which your reporter had notes had to be omitted from this show write-up. Because of human imperfection, notes that should have been made may not have been made. Word from any manufacturer who feels he has been done an injustice will be welcome, for a future year may provide an opportunity to offset any slighting of an important product.

Effective fleet Operation

First Phase of Rutgers University Course covered driver Selection and Training

During the past three months, the Extension Division of Rutgers University, New Brunswick, N. J., in cooperation with Pennsylvania State College, conduced a series of ten classes on "Effective fleet Operation for local fleet Management and accident Prevention." These classes were aimed at the trucking industry as a whole, but they were felt to be of interest since much of the fueloil industry relies on efficient delivery procedure.

Each lecturer was a specialist in his field, and, in addition to regularly scheduled talks, panel discussions were held twice during the term. In this series we emphasize the highlights of the course, especially as they may relate either directly or indirectly to fueloil truck operation.

SINCE THE DRIVER is the man who has the most contact with the public as far as fueloil operations are concerned, perhaps the fastest way to lose customers, with resultant drop in fuel-oil gallonage, is through failure to properly select and train the driver.

Speaking on the subject of selection, Dr. Nathaniel O. Schneider, N. J. Safety Council, pointed out that the right man is the one who realizes that he has a responsibility not only to the company, but to his family, community, and himself, and that his attitude must be one of the "defensive driver."

Stressing the angle that the world's worst driver might never have an accident, Dr. Schneider told the group that it was up to the supervisors to make sure their new drivers had the capacity and ability to follow safety rules. Thus they would be taking the first step towards saving their organization considerable losses resulting from accidents.

How could the supervisors go about making the correct selection?

The New Jersey State safety expert explained there are two basic methods which should be used in combination, that can aid in determining suitable driver candidates. These tests may be classed as over-the-road, or actual operation, and psycho-physical.

Over-the-road tests are aimed at

checking the driver's judgment while the vehicle is in operation. Such tests may be held either in open or closed areas, with the interviewer recording the driver's passing ability, courtesy towards other drivers, etc., on the open road. In the closed area he can test parking ability, approach to the loading station, and entrance into the supply area.

Basic points covered by the psychophysical tests, which may be administered by the layman, include the following:

1. Visual acuity, or sharpness of sight. Tested by means of a wall chart.
2. Field of vision, or side range of sight.
3. Color.
4. Depth perception, or judgment of distance.
5. Reaction time, or time it takes to get the foot off the accelerator and over to the brake.

If the candidate passes these tests, then he is judged potentially capable, physically, of becoming a good driver.

Driving Ability

An interesting point brought up as the result of a question concerned the driving ability of the low IQ individual. Schneider noted that the intelligent person as a driver often has too much imagination; he worries or is excited, and consequently cannot give his undivided attention to the job at hand. The sub-normal person, however, has a one track mind, and consequently will pay attention to driving and to nothing else.

Once it has been decided that the driver-applicant is physically able to do the job, the next step is to train him.

John A. Geary, Employers' Liability Assurance Corp., Ltd., emphasized the point that driver training is a management responsibility. He pointed out that a little preventive training can go a long way toward reducing cost-producing damages.

According to Geary there are two basic means available to management for training drivers: informational and practical, and both should be used.

The informational method is distinctly supplementary and involves visual charts used during safety periods, and a safety table. Such tables show the drivers that many things they may have thought possible—such as stopping distances—are impossible under some conditions.

Geary felt that pamphlets were of little use, since most drivers will not take the time to read them.

Concerning the practical approach to the problem, he stressed the need for management to maintain a fleet job analysis chart, to show the various drivers' records.

Designed to find out not only what the trainee knows, but also what he should know, the chart includes a listing for the various sizes of equipment which the company may be using. Emphasizing the point that, although a driver may be proficient on one type of equipment, Geary told the group that this does not necessarily mean he may be able to handle some other unit.

Through the use of the job analysis chart, the company can keep tabs on which trucks the trainee may be able to operate with safety, and those on which further training is needed. By following this procedure, then, the company can upgrade drivers to the point where they can handle all types of equipment, and do it safely.

Geary recommended that during the training period the driver be told the instructor's reactions to his driving, whether good or bad.

In utilizing the chart as a training aid, the supervisor should follow the plan below:

1. After the first two or three instruction periods the instructor should note that the driver has had partial training.
2. A check of the driver's ability to learn and improve should be made.
3. Although the driver may have passed a number of stages of training and is proficient enough to handle the assigned unit, the instructor should make it a point and general management should find time to provide additional driver instruction.
4. Once full ability is reached, then the driver should be considered for further training on other units.
5. Eventually, the driver may be used as a trainer and thus the company will have trained the individual to a far greater capacity than he might have anticipated. In addition, both the company and the indiivdual gain from this operation since the company may utilize him to the greatest extent, and in turn the individual may look forward to promotion.

One final point lies in choosing the instructor. The supervisor must make sure that the people he chooses will use patience, supplemented with encouragement, when training the driver. The instructor must speak the language the driver uses, his terminology, and make sure he's "getting through" to the trainee by asking questions. Finally he must demonstrate himself, not only as a method of instruction, but also to show the trainee the instructor knows his subject.

Summarizing, here are four basic steps for the trainer to follow:

1. Preparation for the course.
2. Presentation of what is to be learned.
3. Application of what has been learned.
4. Testing the various points which have been taught.

In picking the trainer, Geary says that the instructor's position should not be a graveyard for "broken-down" drivers who can do little else. Management should help the trainer, enable him to do his job competently by providing various aids, and finally giving the trainee time in which to gain further instruction.

Only in this manner can accident losses—such as time in the shop, loss of the driver, loss of good will and a customer, and loss of life—be reduced.

Better Living with Oil Heat

Fueloil Committee emphasizes Promotion at API Marketing Division Meeting

AT THE MIDYEAR meeting of the Marketing Division, American Petroleum Institute, in St. Louis the Fueloil Committee met to hear a clinic outlining the challenges facing the oilheating industry.

The committee under the chairmanship of M. V. Vining, Diesel Oil Sales, Seattle, Wash., met May 24 with a business meeting in the morning. The clinic entitled "Better Living with Oil Heat" was held in the afternoon and the speakers were Robert Gray, FUELOIL & OIL HEAT; William F. Briggs, Valley Oil Co., Inc.; D. L. Barrett, Esso; F. J. Schuster, Troy Oil Co.; and J. A. Collins, Frontier Oil Refining Corp.

Robert Gray, editor, FUELOIL & OIL HEAT, and director of Oilheating Market Reports, introduced the panel discussion and described the new central coordinating office "Oilheating Market Reports" that is providing industry surveys for individual cities. It is expected, he said, that greater understanding of individual markets will be achieved, thus guiding local cooperative programs.

"The initial study of a market is not our whole effort in that direction," he said. "We plan to follow through with later progress reports on the programs and we'll help in other ways as we find the time."

He explained that the general thinking is that there will be joint committees in each market to include both the independent fueloil distributors or jobbers and representatives of the supplying companies.

Gray said that he and Fred Burroughs, associate director, would be glad to discuss the advisability of cooperative advertising in a given market. "We go to cities that invite us. These are cities that have a cooperative advertising program in operation or else the local marketers are planning such a program and would welcome assistance from the supplying companies.

"There is no set pattern for the amount of help that these local programs will get from the big oil companies. The new thinking is that through the market reports they (the majors) will understand the communities better and will then be guided by the amount of effort needed to do a proper job; and what their share must be, both in money and in guidance.

"It's a great day in the life of the oilheating and fueloil industry when our friends among the major suppliers want to help us to promote our businesses and theirs. They see the handwriting as clearly as we do . . . either promote and sell harder or be badly hurt," he concluded.

"What we need today is a revival of the kind of promotion the industry was doing 20 years ago . . . the kind that sets out to convince the public that oilheating is mighty desirable in a home."—*Gray*

Fueloil Budgets, Credit Policies should be Modern, says Schuster

FRANCIS J. SCHUSTER, Troy Oil Co., Indianapolis, Ind., opened his talk before the clinic by saying that fueloil budget and credit policies in the consumer interest are aimed at developing better public acceptance for oilheating. "If your credit policy is modern, like your product, your delivery service, and all the various departments of your operation, it will include a budget plan, and it will help develop better public acceptance of oil heat," he stressed.

He drew the analogy that heating bills are just like the leaky roof. "When it is raining you cannot fix it, and when the sun is shining you do not see the need for the repair."

He questioned whether we would have over a million new homes started this year if it were not for installment payments. "Would the automotive industry be planning one of its best years if it were not for installment payments on cars? Why do some people in our industry think that we are so different that we do not have to offer this modern way of buying the necessities as well as the luxuries of life?" he asked.

One criterion of whether budget selling of fueloil is good or not would be to ask, "Can we be proud of it, can we use it to sell, can we incorporate it in our advertising mediums?" Schuster said. He asked his audience if they examined advertising copy or radio commercials as to why they lacked appeal.

As an example of a commercial that would appeal he drew this one from his company files: "It seems that for most of us homeowners, the mid-season peak for heating bills comes at a mighty inconvenient time . . . right along with heavy holiday expenses and taxes! We know one family who paid $55.72 in January and February. If they had used the Troy Oil Company's fueloil budget plan, they would have paid only $20 in February and nothing in January. The Troy Oil Co. makes the budget plan available to its customers in order to do away with these big mid-winter fueloil bills. Under the plan, Troy estimates the number of gallons you will be likely to use, and then divides the total cost by ten. You make ten, equal monthly payments. You make no payment in January or June, the two months when other expenses are apt to be at their highest."

Schuster feels that this sort of appeal would generally cause the consumer to react with approval and gratitude that his budgeting problems were recognized.

If customers rebel about paying for fueloil in the summer Schuster sug-

gested these rebuttals: This is a 50-50 deal. We use your money to fill our storage, and since you are a pre-paid customer, you have a prior claim to oil, and since you do not make a payment in January, when in all probability we will make two deliveries to your home, you will be owing us until you pay up in May. You help us, and we help you.

Also Schuster suggested using the Christmas savings club as an illustration. Millions of Americans put away weekly, certain sums for the following Christmas. The budget plan will help to stretch Christmas savings.

Schuster has found that the budget plan eliminates the customer who used to complain about a delivery near the end of the month. Homeowners pay with greater regularity when they include fuel costs in the regular list of payments such as mortgage, insurance, savings, utilities, and others.

In describing the mechanics of budget accounts Schuster said that his company sends out a monthly statement of the amount of the monthly payment along with an addressed return envelope. As a reminder that Troy is their fueloil merchant, an advertising blotter or stuffer is also included. To make it easier on the office four or five months statements are prepared in advance to anticipate the load in the heavy winter months.

Delivery costs are reduced when the budget plan is used instead of C.O.D. Time is saved for the driver and the number of deliveries per season is cut about half because the usual C.O.D. customer buys only 100 gal. per drop, he pointed out.

According to Schuster, people want security in one form or another more than anything else. They buy insurance for every conceivable disaster. The budget payment gives the fueloil customer a sense of security, because of his prepayment he has assured himself of a good part of next winter's heat, regardless of what may happen. "There is no finer way to keep your customer happy than to top off your modern equipment, your efficient keep-full service and all the other sales tools which you may be using to keep your customer happy with this modern plan," he said.

"Alertness to any new problem is a prime requisite for competent business in these days of increased competition," he emphasized. "It can be stated generally that any business that is attempting to handle its affairs today as it did 20 years ago will soon be left by the wayside. Sound, ethical, business policies do not change; but when it comes to the physical and material part of a business operation we face constant change."

In determining where the industry is alert Schuster suggested a spring tonic interrogation. Has our product been materially improved in the last few years? It certainly has. Refineries are providing the finest product we have ever had, and additives give us a fine selling tool.

Are order departments supplied with the best of telephone and record keeping equipment? Again most companies could answer "Yes." Are dispatching operations efficient? Most of them are. Are accounting departments still using the same methods and equipment used ten years ago? In most cases certainly not.

But how about the credit department? Is it being used to expand sales? It is Schuster's conclusion that credit departments should awake to the new, modern type of credit, installment selling.

"Spring, when a young man's thoughts turn to love, a wife, a home. Another customer for oil heat. But, alas, it is not all good news. Spring also brings house cleaning, and remember the bitter tonic you used to take as a child? But let's face it. This is spring, and perhaps our industry needs a spring tonic."—*Schuster*

Service Responsibility needed to hold Goodwill—J. A. Collins

"I BELIEVE everyone in our industry has a responsibility to render good oilburner services to the public, but in order to have responsibility for oilburner service, we must have a fueloil market, and in order to have a market, we must first sell oilburners," was the manner in which J. A. Collins, Frontier Oil Refining Corp., Buffalo, N. Y., opened his talk.

In today's highly competitive fuel market, this means the potential fuel consumers must be convinced that oil is the best fuel to meet their requirements for heating homes or business establishments, he explained.

Some of the information contained in the advertising of some segments of the industry contains misinformation regarding fuel cost savings, and in some instances, fully as much advertising value for our principal fuel competitor as for our own product, he warned. He referred to advertising that contained saving claims difficult to substantiate and some ads that carried the name of a competitive fuel in type as large or larger than fueloil.

He feels that the buying public should be informed of all the advantages of fueloil. "Too much of our industry advertising emphasizes cost comparisons and contains too little promotion of the many other advantages obtained by the use of fueloil; to mention two: safety and flexible supply," he said.

Once an oilburner is purchased, the buyers have placed their trust and confidence in our industry, he continued. They have chosen the best means of generating heat for their particular use. The responsibility of keeping those consumers sold on our products is placed on us, he warned.

"If we fail to render them anything short of the best overall service available in their particular fuel market, we are not measuring up to the trust they have placed in us," he said.

However, he said, many dealers seem to feel that the consumer is not entitled to overall services that will tend to eliminate interruptions of use. Yet some of these same marketers make available every service imaginable to a motorist. This they do in spite of the fact that a motorist rarely

buys his year's supply of gasoline from one company as he ordinarily does his fueloil.

According to Collins, many dealers are quite complacent about the competition offered by the utilities in their areas. They say that the utilities do not offer service to controls, and therefore, it is not necessary to render especially good service. Collins reminded his audience that in almost every instance that dealers used this argument the utility renders service that will allow the consumer to operate heating equipment manually.

As an example of dealer indifference Collins told about the group who were going to cut off burner and delivery service at 11 o'clock. This type of thinking continued until a natural gas utility moved in offering fuel at a considerably reduced cost.

He offered a fine distinction when he said purchasers hadn't bought oilburners, but rather they had bought privately owned fuel generating plants. Oilburners, unfortunately, do not actually burn liquid fueloil, but rather the product manufactured by the equipment. Therefore, it must be functioning, or the customer cannot consume oil.

"It is good business for our industry to hold the goodwill of our fueloil consumers by measuring up to the responsibilities they have placed on us."—*Collins*

The development of personnel trained to render mechanical services, Collins believes, is an obligation of the industry at all supply levels. "Let's keep the equipment operating so it can consume oil, and keep our users warm, happy and loyal."

By overall service Collins means: Good selling practices that outline all the advantages of oil. Good installation practices that assure continuing satisfaction and operating efficiency. Automatic oil deliveries, reasonable credit terms, and last but not least, mechanical service.

According to Collins this service should be available 24 hours a day during the heating season, and as required to meet the demands of commercial establishments throughout the entire year.

He summed up: "In carrying out these overall services, we will be meeting the responsibilities imposed on us by the purchasers of oil consuming equipment, holding their goodwill, and in most cases rendering better service than our competitors for the fuel market."

Effective delivery Methods more important now: Barrett

D. L. BARRETT, Esso Standard Oil Co., opened his talk by saying that the most effective methods of delivery have taken on new importance in the marketing of fueloil because first, the need for a completely automatic and worry-free fuel supply to offset similar claims by the gas industry and secondly, the need to reduce delivery costs to a minimum in order to maintain reasonable profits at competitive price levels.

A recent consumer survey done by Esso, reported Barrett, brought out these significant facts: Consumers who prefer gas do so because they think it is cleaner and that it is less trouble from the standpoint of fuel supply and service problems. Consumers who change from one dealer to another do so usually because they are dissatisfied with the service.

According to Barrett the most effective heating oil delivery program capable of competing with the gas industry should include: The degree-day system for automatic deliveries; printed meter delivery tickets; full tank signal device for inside tanks; budget payment plan; clean and attractive trucks; competent and courteous personnel.

Each of these qualifications was explored by Barrett who emphasized that the degree-day system had unquestioned value in reducing delivery costs and satisfying customer requirements. But, he warned, the most economical operation measured in gallons-per-hour output results only from a combination of the degree-day method and efficient, intelligent dispatching.

In the Esso survey 87% of the respondents were on a degree-day system the rest on a "will call" basis. He suggested that "will call" customers be kept at an absolute minimum because they are excellent prospects for gas heat. Also a degree-day card should be kept for these customers with a postcard or telephone call used to notify them that a delivery was necessary.

The printed meter delivery ticket has considerable value in convincing customers that deliveries should be made even if they are not home. The ticket ties in closely with the full tank signal for inside tanks which enables deliveries to be made when no one is home.

The tank signals reduce "non-delivery" stops which cost a dealer in the neighborhood of $1.75 each. Barrett said that "will call" customers account for half of these non-delivery stops.

Barrett said that Esso's survey had established customers' attitude on budget plans. Even if the customer were not on such a plan, in 3 out of 5 cases, he thought it was a good idea.

"Clean and attractive delivery equipment is of inestimable advertising value," said Barrett. He reminded that some customers favor gas in the belief that it is cleaner. "We should not only talk cleanliness, but practice it," he stressed.

The effectiveness of the entire delivery program will be directly proportionate to the calibre and attitude of the personnel involved, Barrett insisted. All employees in the so-called customer service departments should be fully acquainted with the entire program.

Summarizing, Barrett said: "This

"Clean and attractive delivery equipment leaves a good impression with the customer as far as the cleanliness of oil heat is concerned . . . One of the main reasons some consumers favor gas heat is the belief it is cleaner. We should not only talk cleanliness, but practice it."—*Barrett*

matter of establishing the most effective and productive methods for delivering fueloil is a continuing problem, requiring constant research and study on the part of all of us. We may, however, work toward this goal with the knowledge gained from experience, that the most effective delivery program that we can devise will also prove to be the most profitable."

Industry must improve Fueloil's Position with Public, says Briggs

"THIS IS A rather grim session," was the manner in which William F. Briggs, Valley Oil Co., Inc., Middletown, Conn., began his talk on improving consumer attitudes toward oilheating.

"It's one of hundreds of grim meetings being held day in and day out throughout the country as fueloil men tardily sit down together to face the fact that they are in a fight for their very existence.

He said it was the job of the industry to once more convince the average consumer that oilheating is modern, clean, comfortable, convenient, and the truly modern fuel—the fully automatic fuel.

Well-financed, smart competition with all the advantages of concentration and consolidation has been beating the fueloil industry round by round, he insisted.

Briggs told the group that the industry should recognize its competitors' claims—they are the same claims "we used to spend a fortune advertising before we got soft and fat. With them we licked coal. Now they are the claims of the gas companies."

If automatic oilheating is to continue as a leader in the home heating field in the face of new competition, we will need to make it just as good as our advertising has claimed it to be, he pointed out. In his opinion the industry doesn't have time to change gradually. "Our industry as a whole must move and move with dramatic speed."

In areas where fueloil dealers have banded together to fight gas competition there has been an interesting development, Briggs commented. "In retaliation, the gas companies have gone 'underground.' They are not buying a lot of space for advertising but their 'subversive activity' and fifth column job continues. They have brought together plumbers in each town for meetings. They have contacted builders and done a selling job. They continue to sell gas heating, but they have slowed down fueloil advertising and oilheating retaliation. They have lulled oil men to sleep. They have adopted a new approach.

Briggs prophesied that oilheating men have two courses open to them. If they want growth every year, if they want to continue to add new customers and new gallonage, they must promote and advertise oilheating as safe, clean, modern and automatic. They must spend money for promotion in order to keep pace with competition.

The other alternative is less attractive. If new customers cannot be added, individual companies must fatten off of the business of their fueloil competitors to continue to grow. "We must take business from each other. In order to do that, we will cut prices. That means the end of a decent margin and the end of a decent gross profit," he warned.

It is Briggs' feeling that consumers over the years have been given a terrible beating by oil men. "We've concentrated our statesmanship in the task of securing customers. We have neglected entirely considerate solicitous treatment of customers once they were in the fold."

He pointed out that most oil trucks are dirty. Most truck drivers are not uniformed. Poorly trained or hurried servicemen, in many cases, have been the cause of frequent call backs resulting in excessive charges for service. Most installations when completed are not tested with instruments.

"One of our biggest problems has always been how to make enough money in the heating sales department to cut down losses resulting from service problems." Briggs continued, "Customers in some areas after trying to get service have thrown up their hands and put in gas. Some companies are hard boiled; they insist that they must get their proper gross profit out of a service call at any cost and, if the customer kicks, they are adamant. This arbitrary attitude plays into the hands of our competition."

It is unfortunate, said Briggs, that so few companies take the trouble to actively campaign to sell parts and service policies. "It's the painless way to get paid for service."

He also deplored that so few companies do a scientific job of summerizing, burner cleaning and furnace cleaning. If they do a cleanup "very few call their men together for a check list type of training to make sure the summerizing job is well done—to eliminate future service calls. Very few companies have their cleaning men leave the customer a checklist showing the kind of job done so he feels that he received his money's worth."

Briggs concluded: "If there were some way of dramatically portraying the emergency, we could probably organize the fight faster. You can always raise a fund quickly in a factory if someone is badly hurt. We need help; we need a new frame of mind; we need a new look."

"Every time an oilburner fails to ignite; every time a heating customer is obliged to telephone for service; every time a customer is irritated or just plain mad about a service call or a charge for service—we are helping the gas company conduct its advertising campaign." —*Briggs*

"A businessman decided to have a gigantic sale. He brought in a lot of merchandise, dressed up the place and put out huge signs advertising the sale. A friend of his two stores down, not to be outdone, put up a larger sign, made larger displays, dressed up the front of his building. The businessman in the middle took a look at the big displays on either side of him and made a fine sign for himself reading 'Main Entrance.'

"We need to go in at the main entrance. We need to hook in with the job that's being done nationally. We need to present a united front."—*Briggs*

A Case against Type B Flues

Report of Oil Heat Institute of Long Island highlights Dangers of the one fuel Flue

One of the most difficult problems facing the oilheating industry in its fight for the new home market is the acceptance by national and local Government bodies of the so-called Type B flue. A builder can save a little money—perhaps $25 to $40—by using this flue, but the owner of the home henceforth must stay with gas as a heating fuel.

Mr. Barr and his associates developed an interesting report on the objections to the Type B flue and subsequently have had some success through their presentations to local governing boards.

Because this report can be of possible use to groups in other communities, we are reproducing in full the following explanatory letter from Mr. Barr and then the report itself.

OIL HEAT INSTITUTE
OF LONG ISLAND, INC.
Hempstead, N. Y.

Editor:

I am sending along a copy of the presentation which we made to the New York State Building Code Commission at hearings in Riverhead on May 24 and in Garden City on May 25. This material may be useful to others who have the same problem.

We found that handing the Commissioners a sample of such a Type B flue was an extremely effective device in gaining their realization of the flimsiness of the construction.

Not content with approaching the problem at the State level alone, we have also been pressing forward on the local scene. At the Brookhaven Town Board meeting on May 17 we made a similar presentation. Direct contact has also been made with the Town officials of Islip. The latter, particularly, has produced very favorable results—an especially heartening factor since the Town of Islip now has about 5,000 of these flues. Smithtown, too, responded favorably and we hope to make representations to numerous other Long Island political units.

Robert M. Barr

In every case, we have found it effective to have the sympathy and, if possible, the support of the local building inspector and the Fire Department officials.

Let me emphasize that we welcome the use of any of this material by any Oil Heat group which may find it helpful in combatting this very serious threat to public safety.

While as an association, we are just getting underway (our first officers were only elected on May 3) we have a committed initial membership of about 200 and we hope to be able to make substantial progress in promoting oilheating on Long Island.

The first ads in our promotion campaign appeared on May 31, immediately preceding our second general meeting, held June 2 at The La Grange Inn, Merrick Rd., Babylon, N. Y. At that time, too, we discussed a plan for Island-wide credit interchange. We will also be setting up a Service Education program and a Benefits program within a short time.

The officers of our group are:

President: Pat Caputo, Rite Fuel Corp., Hicksville.

Vice-President, Nassau: Charles Bennett, L. J. Bennett, Inc., West Hempstead.

Vice-President, Suffolk: William Marran, W. R. Marran's Sons, Patchogue.

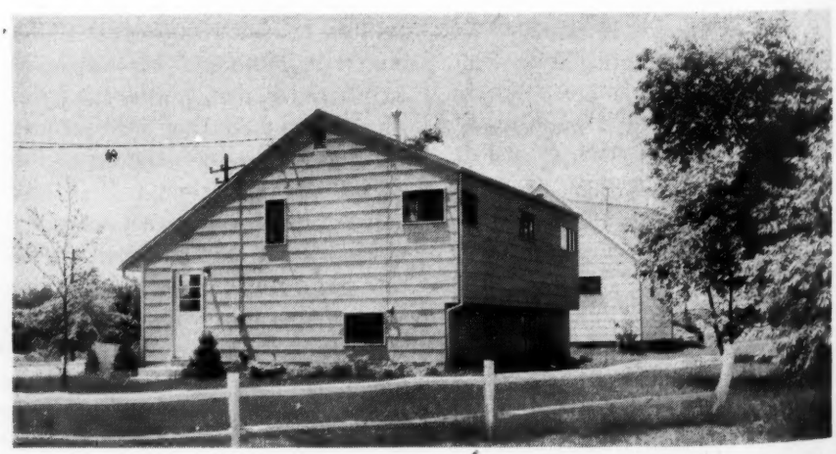
Treasurer: Al Kopinski, Village Plumbing & Heating Co., Greenlawn.

Our Membership Director is Charles Hollinger, Universal Utilities, Inc., Great Neck.

ROBERT M. BARR
Executive Secretary

Some Facts on the Type B metal Flue

"The Type B flue is so called because it falls into a classification of the Standards of the National Board of Fire Underwriters for the Installation



Two of many homes *on Long Island which have Type B flues. They prevent the homeowner from changing flues unless a new chimney is built.*

of Gas Piping and Gas Appliances in Buildings.

"As these standards indicate, it is suitable for use only with approved gas appliances which produce flue gas temperatures not in excess of 550°F. when installed as specified by the manufacturer's installation instructions and where permitted by the authorities having jurisdiction.

(The New York State Code permits the use of such flues for gas only on the same temperature basis. Cf 5.49, State Code Manual.)

"In the words of the Underwriters' Laboratories Report, Misc. Hazard 5102, Application No. 51C2367, Oct. 9, 1951, on a typical Type B flue: 'They shall not be used with gas appliances which are required to be vented to Type A flues.'

"Such a gas appliance as the 'Calcinator'—according to the manual of installation and operation furnished by its manufacturer—should be connected to a Type A flue. (See Par. 9, page 4 of that manual.) The 'Calcinator' is an incinerator.

(The New York State Code requires flue-fed incinerators to have the flue capable of withstanding internal temperatures of 1800°F. Cf 5.67, State Code Manual.)

"It is important to emphasize that such a Type B flue can be used safely for certain gas appliances only. It cannot be used for heating systems whose fuel is coal, coke, oil or even wood.

"Consider, then, the plight of a homeowner who moves into a new house equipped with such a Type B flue. He is:

(1) restricted to the use of only one fuel;

(2) subjected to a situation in which there is only one supplier of the single fuel available to him; and

(3) placed in the position of paying demonstrably high fuel bills when already under the burden of mortgage and taxes, often managing to pay the fuel bills only by deferring payment to local merchants.

"His dilemma is obvious: he has only two alternatives—to continue paying the high bills or to convert to a less expensive fuel. But the very nature of the flue built into his house prevents his following the second course, without doing a relatively expensive chimney rebuilding job in order to install an all-fuels flue.

"We submit that the Type B flue is discriminatory in that it leaves the homeowner in an untenable position and one which is diametrically opposed to traditional American freedom of choice.

"Infinitely more important, however, is the question of the public safety. We think it important to note that while every gas appliance which will be attached to such a flue must be approved, the high standards of the National Laboratory of the American Gas Association have never approved the flues themselves nor do they have any standards at the present time under which they are applicable.

"Furthermore, the "Generally Accepted Standards applicable to State Building Construction Code," published by the N. Y. State Building Code Commission, lists only one source for such standards as applied to 'Chimneys, Flues and Gasvents.' (Cf p. 10.) That source is the American Standards Association (ASA, Sizes of Clay Flue Linings A62.4-1947, July 18, 1947) which has absolutely no standards for the classification of metal flues.

"Yet these flues are permitted, according to Underwriters' Laboratories, to be installed one inch from wood in a concealed wall.

"It should be emphasized that these flues are made of metal and nothing but metal. Some types have trade names which might indicate to the uninitiated that they contain an insulating material such as asbestos. They do not contain any such material.

"The basic form of such a flue is that of two concentric cylinders of metal—generally aluminum—with an air space between. The air space is the insulation. Even a cursory examination of a sample of such a flue reveals that the construction is so light that it may readily be dented by pressure of the thumbs. Obviously, any minor bump which brings the outermost cylinder into physical contact with the inner destroys the insulating cushion of air.

"As we noted earlier, the maximum temperature which these flues are designed to withstand is 550°F. How does this figure stand up with generally accepted standards?

(1) As noted above, AGA has no such standards.

(2) As noted above, ASA has no such standards.

(3) The National Board of Fire Underwriters does not test flues. However, their testing arm, Underwriters' Laboratories sets up tests on a minimum of 1,000°F. for all-fuels flues.

(4) The New York City Building Code (C26-6960C), Flues and Outlet Pipes for Gas Ap-

(Please turn to page 150)

Typical home *in the less than $7,000 category, equipped with Type B flues. The home must use gas for heat, regardless of cost.*

Oilheating Market Reports —METROPOLITAN BALTIMORE

METROPOLITAN BALTIMORE, as considered in this report, includes the City of Baltimore and Baltimore and Anne Arundel Counties. Population of this area was 1,277,382 at the time of the 1950 Census and probably is nearer 1,350,000 today.

It represents 72% of the State of Maryland in number of oilheated homes and has 2.68% of all oilburners in the country.

Until the recent advent of serious competition from natural gas this market was particularly favorable to oilheat. At the time of the 1950 Census 56% of all centrally heated dwelling units in the area used oil.

In the 1950 Census Metropolitan Baltimore had 291,095 centrally-heated dwelling units and this was a little more than 80% of all dwelling units in the area. By fuels, centrally-heated homes are broken down as follows:

Oil	163,040
Coal	81,220
Gas	39,095
Other fuels or not reported	7,740
Total	291,095

Competitive Fuels

Coal heating is a declining factor in this market. One estimate places the number of installations lost by coal to other fuels at about 5,000 per year since 1950, which would result in about 60,000 coal installations remaining at the end of 1954.

The fuel principally competitive to oilheating is natural gas. No very clear separation of the Baltimore market from the State as a whole, however, exists. The State figures show that on Jan. 1, 1953, centrally-heated homes burning natural gas were 101,405. On Jan. 1, 1954, they were 115,470. On Jan. 1, 1955, they were 124,555.

It is logical that most of the gas heating growth within the State occurs in the Baltimore area.

Baltimore oilmen lost to gas in 1954 approximately 575 residential central heating customers. This is about ¼ of 1% of all oilheating customers. In the nation as a whole, the loss of oilheating customers was three times as high, representing about ¾ of 1% of all oilheating customers.

It is primarily in the new home market that oilheat has yielded to gas. In this field, new gas-fired central heating installations have captured a major share of the business, predominantly concentrated in the lower-cost, speculative, or development, type home.

The fact that Metropolitan Baltimore has about 72% of the State's oilheating is also verified by the earliest check on this point, which is found in the rations issued in 1945. At that time Metropolitan Baltimore represented 73% of total rations for central heating issued in the State. The table that follows shows the growth of oilheating in this area over a 10-year swing:

Rations issued, 1945	67,384
Census of 1950	163,040
Oilburners operating, Jan. 1, 1955	203,182

Fuel Costs

The retail price of anthracite coal of the hand-fired variety in Metropolitan Baltimore is about $21.00 per ton, of approximately 12,500 Btu to the pound. This figures out at 8.4¢ per therm, or about 14% lower than No. 2 heating oil (Winter price) on a Btu basis.

Gas for heating is sold by the Consolidated Gas, Electric Light and Power Company of Baltimore and is natural gas of 1,050 Btu content per cubic foot. At the lowest bracket in the gas rate structure the rate is $1.17 per thousand cubic feet, or 11.1¢ per therm, which is 13% higher than the cost of oilheat.

The present retail or tank wagon price of No. 2 fueloil in the Baltimore market is 13.10¢ per gallon, although this has been reduced by a Summer discount of .65¢ per gallon. Cost should, therefore, be considered as 13.75¢ per gallon since this will apparently be the basis during the next heating season.

Fueloil, at this Winter rate of 13.75¢ per gallon, costs 9.8¢ per therm. A typical residence using, for example, 1500 gallons of heating oil in a season would burn heating oil to a total cost of $216 and for gas, $245. Such a comparison assumes, of course, equal efficiency for both fuels.

Fueloil Distribution

The indicated consumption of No. 2 heating oil in the Metropolitan Baltimore market in the season of 1953-54 was 280,797,000 gallons, or 6,700,000 barrels. About 38% of this, in Metropolitan Baltimore is sold direct to the consumer by the integrated oil companies. The remaining 62% is sold by independent marketers.

One interesting measurement on the Baltimore market is the fact that only about 9% of the total No. 2 volume is bought "under the fill." This gallonage, however, is sold by companies representing 15% of the total number operating in the market.

The average user of No. 2 fueloil in Metropolitan Baltimore in the 1953-54 heating season burned 1,382 gallons. This includes quite a number of small commercial accounts. Isolating the residences from this total, we find that their average use was 1,296 gallons. The average commercial account burning No. 2 oil for heating uses approximately 4,755 gallons.

Delivery practices in Metropolitan Baltimore are refined to the extent that 78% of all customers get automatic deliveries, and 73% of all customers' tanks are equipped with VENTALARM signals.

Fueloil budget plans for monthly payment of the annual oilheating cost are enjoyed only by about 9% of oilheating customers in Baltimore.

In metropolitan Baltimore 37% of the fueloil companies sell gasoline; 19% sell coal and 73% sell and install oilburners.

Market Concentration

Baltimore exhibits a high degree of market concentration, in that 60% of the No. 2 fueloil gallonage is sold by 18% of the companies. A complete count of all companies known to be operating in the area shows delivery-fleet size broken down as shown in the table below:

Trucks delivering No. 2 fueloil	*No. of companies operating within classification*	*Percent of companies to total*	*Total trucks represented*	*Percent of total number of trucks*
20 to 70	3	3%	145	28%
10 to 19	7	7	88	17
6 to 9	11	9	80	15
3 to 5	37	35	137	26
1 or 2	49	46	74	14
Totals	107	100%	524	100%

In the face of increasing natural gas competition fueloil companies, in 1954, sold 73% of the oilburners installed in the market. Some of these, as previously noted, were replacements of old oilburners, but the majority constituted new oil accounts. Plumbing and heating companies, as a general class, sold about 22% of the new oilheating jobs and special oilburner service companies the remaining 5%.

Oilheating Service

In 1954, oil companies rendered about 86% of all oilburner service in the greater Baltimore market; plumbing and heating companies did 8%; special service companies, 6%.

Service contracts are relatively popular in Baltimore, with 52% of all oilheating users being taken care of under these plans. An additional 14% of users get annual cleanup and overhaul jobs, so a total of 66% of oilburners here are being checked and put in top shape at least once a year.

Baltimore service charges are low compared with national averages. The average Baltimore contract, including parts, costs $18.54, and the average contract not including parts sells for $12.75. The annual overhaul job, where there is no contract, costs around $8.60.

For customers not having service contracts the minimum charge per call by oil companies in 1954 was $3.86, and by heating companies not in the oil business, $3.94. Both figures are averages for the year.

Advertising Promotion

The extent of advertising by integrated oil companies and independent marketers, over individual company signatures, has not been great, although independent marketers have done considerably more of this type of promotion than the integrated companies. General emphasis moreover, in the integrated companies' advertising, was primarily upon the merits of the particular brand of heating oil (71%), only about 29% upon the advantages of oilheating.

Cooperative industry advertising, on the other hand, has been long-established and has been quite substantial—around $35-30,000 spent each year since 1952. Expenditures have decreased slightly each year, however. This has been attributed to a possible feeling among the participants that the size and extent of the oilheat promotion have been inadequate to successfully meet the aggressive promotion of the gas utility. Promotion by the gas utility has been heavy, reaching a peak of $225,000 last year.

Current basis of contributions is 1/40¢ per gallon of No. 2 fueloil sold at retail by independent marketers (1/20¢ per gallon in prior years) and subscription from the supplying companies on a negotiated basis. Six supplying companies, to date, have furnished 30% of the budget; approximately 50% of the independent marketers, representing about 70% of the market's retail gallonage, have subscribed.

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Oilheating Market Reports
—WESTCHESTER COUNTY, N. Y.

GEOGRAPHICALLY, Westchester County is about 30 miles by about 25 miles in extent at its longest and widest dimensions, contains 435 square miles of land area, and includes 46 municipalities. Its 1950 population was 625,816 and, at the end of 1954, is estimated at 683,400.

While Westchester is looked upon almost entirely as a high-type residential district immediately adjoining the City of New York there are, nevertheless, two or three dozen industries of considerable stature among about 1,000 manufacturing plants of all sizes and types, giving employment, in all, to more than 50,000 persons.

In addition to these manufacturing industries, some 15 of the nation's largest corporations have established their head offices in the county.

The 1950 Census of Housing showed 89%, or 153,685, of the 173,115 heated dwelling units of the County as having central heating plants. Among those centrally-heated homes, 73% were using fully-automatic fuels, such as oil or gas.

Centrally-heated Dwelling Units, 1950

Oil	82,435
Coal	36,625
Gas	29,655
Other fuels or not reported	4,970
Total	153,685

In 1954, it is estimated that among centrally-heated, 1-or-2-unit dwellings competitive fuel installations were about as follows:

Total 1-or-2-unit dwellings, centrally heated	117,797
Heated by Oil	66,685
Heated by Coal	15,000
Heated by Gas	25,597

Competitive Fuels

By the end of 1954 it is estimated that there were 135,177 1-or-2-unit dwellings in the County. To the 66,685 oilheating installations in this classification, however, must be added another group of small stores, small apartments, service stations and other small commercial heating jobs where the typical domestic burner is used, fueled by No. 2 oil. The estimated total of this type of installation is 6,735 and the total of these, added to the oilburner installations in 1-or-2-unit dwellings is 73,420.

Net installations in 1-or-2-unit dwellings and in small commercial and apartment units by years, for the period 1950-1954, are estimated as follows:

	1-2 family units	*Small commercial and apartment*
1950	4,514	456
1951	4,015	406
1952	3,755	379
1953	3,788	383
1954	3,412	345
Total	19,484	1,969

Thus, an estimated total of 21,453 installations were made in both classifications during the period.

The gas industry's new business comes primarily from new homes and secondarily through conversions from coal.

The competitive battle between the two fully-automatic fuels for the new home market has been decidedly interesting. Five years ago gas was getting the lion's share of this business, but today the utility finds itself able to add only about 1/3 of the better-class new homes and probably ¾ of the cheapest builder developments. In the medium bracket, gas shares the new home market with oil on about a 50-50 split. Much of the reason for this shift toward oil has apparently been the emphasis, in the oil industry's promotional programs, upon fuel economy.

An estimate by fueloil men places at 1,500 the number of gas central househeating installations made during the past year, which compares with the net figure of 3,757 new oilheating users added during this period.

Coal heating installations have been a common raiding-ground for both the fully-automatic fuels. Thus, while the Census figures for 1950 showed 36,625 centrally-heated homes using coal, a maximum of only about 21,000 installations could be considered as being in 1-or-2-unit dwellings.

The number of coal-heated 1-or-2-unit dwellings dropped to about 15,000 in 1954.

Fuel Costs

No. 2 fueloil is sold in this market at the Winter rate of 13.7¢ per gallon, with a Summer discount of .5¢ in effect at the present time. At the Winter rate, this figures out to a cost of 9.9¢ per therm, giving oil the cost advantage over all competitive fuels, except stoker coal.

Gas for heating is supplied by Consolidated Edison and is natural gas of 1,055 Btu value per cubic foot. At the lowest bracket in the rate schedule the cost of gas is 14.9¢ per therm, or 100,000 Btus. A customer, however, must use 5,100 cu. ft. per month at higher brackets before he gets into this lowest rate. As a result, the true cost of heating in the average house would be more like 16-17¢ per therm.

Anthracite coal for hand-firing costs an average of $27 per ton, and is of 12,500 Btu content per pound. This results in a cost for this fuel of 10.8¢ per therm, and accounts importantly for the steady loss of coal users to conversions by oil and gas fuels. Stoker coal, of the smaller variety, costs about 7.2¢ uer therm.

Fueloil Distribution

In the 1954-55 heating season, the average consumption of No. 2 fueloil for heating residences and small commercial establishments was 2,380 gallons.

The indicated total consumption of No. 2 heating oil in this market is a little over 4,000,000 barrels a year. About 18% is sold direct to the consumer by integrated oil companies, while the balance of 82% is sold by independent fueloil marketers.

In the Westchester County market about 68% of the independent companies buy their product "under the fill." They account for 48% of the total market gallonage.

Both suppliers and independent marketers agree that 83% of the customers are served with automatic deliveries and 63% of the inside tanks are equipped with VENTALARM signals.

Fueloil budget plans have not made much headway compared to some other Eastern markets. Only about 9% of the oil-heating customers are enjoying this method of equalizing monthly payments.

Only 7% of the independent fueloil distributors sell gasoline; 12% sell coal; and 76% sell oilburners.

Market Concentration

The total of 126 companies shown in the table includes marginal and seasonal operators, and a few Connecticut companies who sell fueloil in Westchester. Of the total, it is estimated that only about 70 are bona fide fueloil marketers, while an even smaller group of probably 45 are in complete oil-heating operations.

Thus the number of trucks engaged primarily in delivery of No. 2 heating oil should also be scaled down from the total of 271; probably to a more realistic figure of 225.

A little more than three-fourths of the independent companies marketing fueloil also sell and install oilburners.

Of the total of 3,757 new installations of oilheating equipment made last year in the County, oil companies sold 48%; plumbing and heating companies, who sold no fueloil, accounted for 39%, and companies specializing in burner service but sold no fueloil installed the rest, 13%.

Oilheating Service

The greater part of oilburner service, by far, in the Westchester County area is handled by oil companies, who perform 77% of all such work done. Plumbing and heating companies take care of only 10% of the service work load, and specialized oilheating service companies (who handle no fueloil) do about 13%.

The maintenance of oilburners under regular service contract is enjoyed by about 47% of the oilheated homes in the County; another 28% order an annual clean-up apart from contracts.

For service contracts including replacement of worn parts the overall average charge is $32.38, and for service contracts not including parts, $22.79. The cost for the annual overhaul and clean-up alone averages $14.33.

Burner service on a call basis is handled at an average minimum charge of $4.69 per call by the oil men. Other companies who render service but who do not sell fueloil average $4.84 per minimum call.

Advertising Promotion

Cooperative promotion is sponsored by the Westchester Oil Trade Association, the representative oilheating industry group of the area. This year's budget the largest yet planned, is $25,000. The basis of industry contributions supporting these promotional efforts has been a multiple dues assessment upon the members of the Association—usually double the annual dues, but trebled one year. Contributions, though not large, have also been made upon a voluntary basis by some of the supplying companies operating in this market.

Trucks delivering No. 2 fueloil	*No. of companies operating within classification*	*Percent of companies to total*	*Total trucks represented*	*Percent of total number of trucks*
10 or more	5	4%	55	20%
6 to 9	6	5	40	15
3 to 5	18	14	60	22
1 or 2	97	77	116	43
Totals	126	100%	271	100%

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Towards greater Indoor Comfort...

University of Illinois heating Specialists performance-test actual Systems

by
J. W. Schulz

YOU SHOULD envy the experts who concentrate on heating at the University of Illinois, Urbana, Illinois—if you as a heating specialist have ever dreamed of trying out two different kinds of modern heating systems in a given home to find out which provides greater comfort, or lower fuel consumption, or lower electric bills, etc.

These experts have done just that; in addition, they've done many other things such as testing and evaluating new ideas on heating and cooling typical homes; studying the maximum comfort that can result from modern automatic firing; and checking to find out if the assumptions and calculations made in planning heating systems apply accurately to typical homes.

The work of many heating engineers is limited mostly to using standard methods for figuring heat losses and laying out heating systems. The heating experts at Urbana use the same standard; modern methods—an important part of their work lies in using the standard methods to plan the heating systems for their test homes.

The ordinary heating engineer seldom really knows whether or not his systems produce maximum indoor comfort. The University of Illinois experts are able to make elaborate projects of evaluating in a detailed manner the performance of their heating systems. The experts at the university use an array of testing equipment which is bewildering to most heating engineers. See the testing equipment in the accompanying photographs.

Here's just an idea of the studies conducted in one "Research Residence" by the engineering experiment station of the University of Illinois in cooperation with The National Warm Air Heating and Air Conditioning Association.

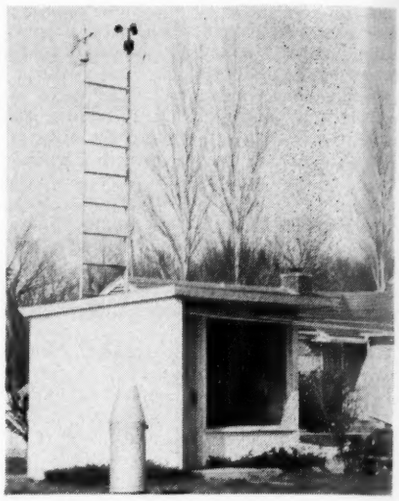
For the heating seasons of 1947-48 and 1948-49, this house, of one-story construction with a full basement, was heated alternately by two different forced-air systems. For example, during a given month one of these systems was used for two weeks, then the other was used for two weeks, to compare their characteristics during weather of a certain degree of severity.

One of the heating systems, termed the "convection system," featured an extended-plenum trunk duct and high-sidewall supply registers . . . forming a heating system most engineers would regard as ordinary or conventional.

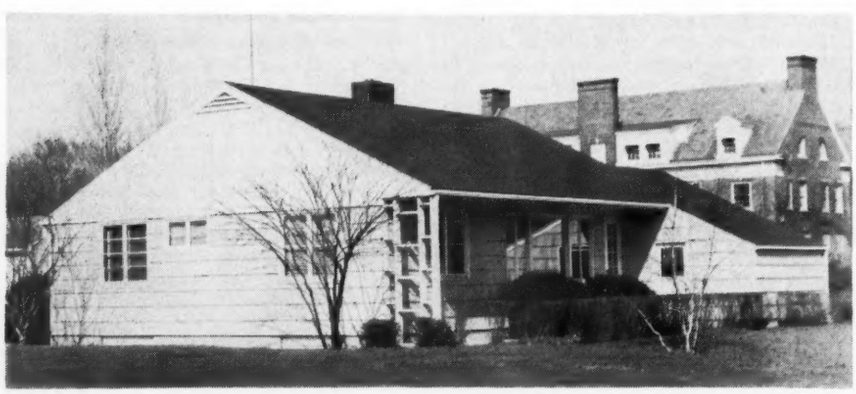
The other heating system can be termed "forced-air radiant" or "radiant." The ceiling of each room was heated by flowing warm air from the furnace to an 8" air space above the room, which was provided by open-web steel joists above the ceiling. In effect, an 8" layer of warm air passed over the ceiling of the room to warm it. The ceiling surface warmed by the air was made of pressed cement-asbestos millboard panels. Above the 8" layer of warm air, a 3⅝" of batt-type insulation checked the flow of heat from the warm air to the attic and roof.

With this radiant system in use, no heated air found its way into the rooms. After serving to raise the temperature of the ceilings in the house, the warm air returned to the furnace. Thus, this was designed to be a 100% closed system; there was no intention of heating the rooms by flowing warm air into them.

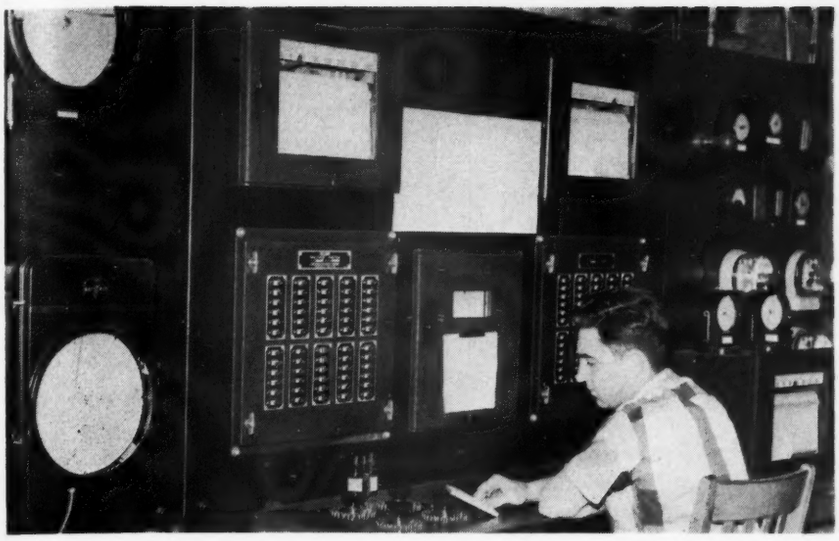
The radiant system and the conventional forced-air system (with high sidewall registers) were powered by the same furnace. Comparison tests were made of the two types of distribution systems throughout the two heating seasons, during widely different weather conditions.



Weather Station *behind the warm-air Research Residence. Outside temperature and wind measurements are of understandable importance in winter; outside humidity gains added importance when summer airconditioning equipment is being tested. Wind measurements are tremendously important during infiltration tests which involve 2% helium introduced into atmosphere of the residence.*



South view *of Research Residence described in article, in which two types of forced-air systems were tested. Temperature conditions were improved in winter by introducing heat into the full basement of this house, for this gained an important panel-heat effect from the floor. But the improved comfort was not gained at no cost. Cost = 10% increase in fuel consumption.*



Part of the instrumentation *set-up in basement of the warm-air Research Residence. To measure temperatures, 200 thermocouples of 24-gage copper-constantan wire were installed. All thermocouples are connected to two switchboards, which appear in this picture. Each switchboard connects to the indicating potentiometer, which can produce a continuous record of the temperature of any 12 of the 200 stations. Notice the two portable temperature recorders, of the type popular in the field, at the right-hand side of the photograph.*

The performance of the two systems was found to be remarkably similar with respect to temperature measurements made of the air and the surfaces in the rooms. Both systems permitted excellent automatic control of the room-air temperatures.

Fuel consumption for the radiant system was somewhat higher than for the conventional forced-air system. The radiant system was much slower to heat the rooms mornings than the conventional system, with the furnace trying to raise the room temperatures to the daytime level after a night reduction in temperature.

Many other points were made clear by this comparison test of two types of forced-air heating plants. The conclusions, experts emphasize, apply to only the particular heating systems which were tested . . . for altering details of the design of either system, or altering the material, might affect heating performance considerably.

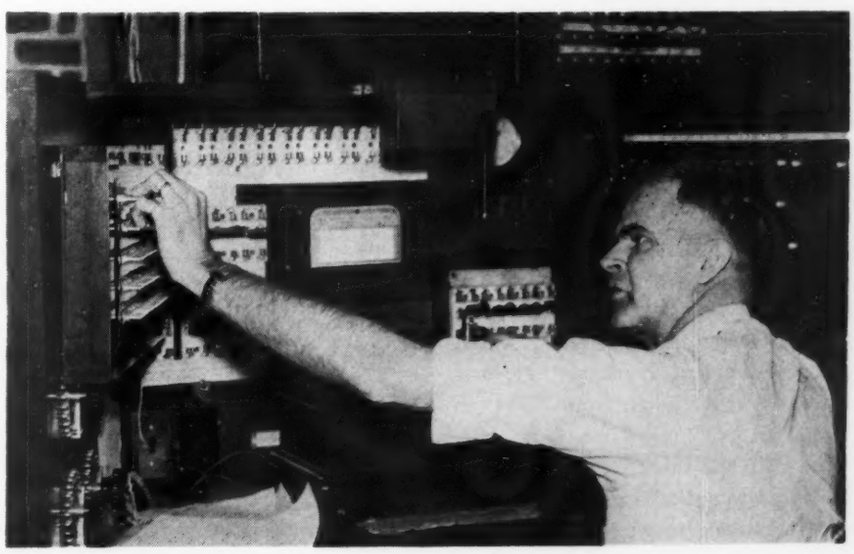
During the heating seasons of 1949-50 and 1950-51, investigations were made of the effects of feeding outside air into a return-air system of this research residence; the effect on fuel consumption was important, of course. At the same time, closet installation of the furnace was simulated and studied —one point examined was providing enough combustion air for closed-in furnaces.

Still later came preliminary tests of a small-pipe (4") distribution system with 2¼" x 14" floor diffusers under windows at outside walls—perimeter-pattern distribution. These investigations were continued through the 1952-53 and 1953-54 heating seasons. The summers of 1952 and 1953 involved investigations of high-sidewall supply registers for summer cooling.

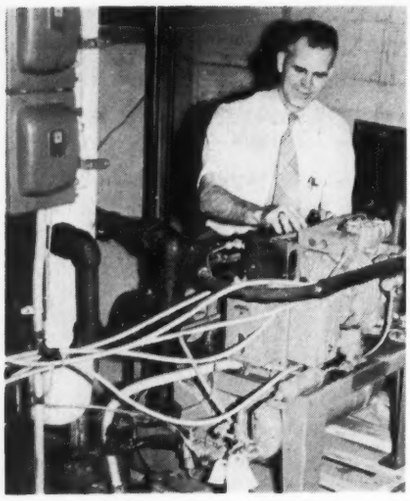
After many other investigations had been made in this house, in the summer of 1954 its first year-round heating and cooling system was installed. For heating, a cfm rate of approximately 340 was found to jibe with running the circulating blower continuously when the outside temperature was about 35° F. or lower—using the one circulating blower that's standard for the particular furnace.

For summer airconditioning, the cfm is a minimum of 600—using the

"Forced convector" *unit. (Another is on the front cover.) Sizing of these units to produce proper summer dehumidification is extremely important, the Professor ascertained. Oversizing radiators and units of this type results in no great difficulty for heating purposes — but oversizing these units breaks down their performance with respect to dehumidifying they accomplish in summer, with the units controlled by the room thermostat arrangement often used.*



Small section *of the instrumentation set-up in basement of the* IBR *Research residence to measure temperature and other conditions in the rooms. This is Professor W. S. Harris.*



Two-ton *freon refrigeration equipment which provides the chilled water in summer in the* IBR *Research Residence.*

blower in the furnace together with a second blower which is part of the summer airconditioning unit.

That's just an idea of what heating experts do with a house which was built especially for heating and airconditioning studies, and which can be occupied or unoccupied to meet the needs of the particular investigation.

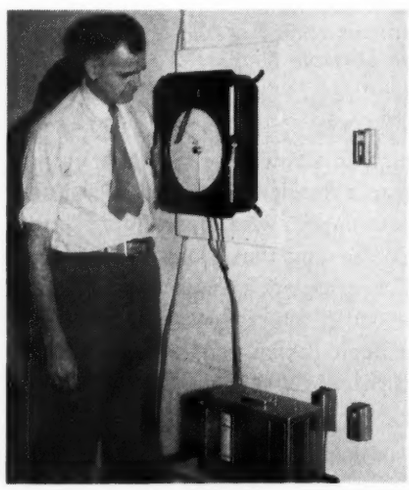
W. S. Harris, whose pleasant face appears in several of the accompanying photographs, is singularly qualified to describe other doings at the University in Urbana. Here are biographical details on this outstanding figure in the heating and airconditioning industry.

W. S. Harris received a Bachelor of Science degree in Mechanical Engineering in 1930, and a Master of Science degree in 1933—both from the University of Illinois. During graduate work he specialized in heating and ventilating under Dr. Willard and Professor Kratz. During the time of graduate study he served as part-time assistant at the warm air research residence under the supervision of Professor Konzo.

After gaining his Master's degree he was employed for one year in the research laboratory of the Philadelphia and Reading Coal and Iron Company. From there he went to the Delco Appliance Division of General Motors to take charge of its thermal research and development laboratory. He was employed by Delco from 1934 to 1940.

In 1940 the Institute of Boiler and Radiator Manufacturers entered into a cooperative agreement with the University of Illinois to conduct research on steam and hot-water heating systems. W. S. Harris was invited to take charge of this work which involved the construction of a six-room house in which to do the boiler-radiator research work.

Investigations continue today in this house under the direction of W. S. Harris. The performance of all types of steam and hot-water heating systems and related equipment has been studied. For the past two summers the program has been expanded to include studies of summer cooling systems which can be used in homes heated in winter by hot water.



A few *of the components used in the* IBR *house to check on temperature and humidity. Mounted on the wall are thermostats and a humidity control. Wet-bulb and dry-bulb temperatures are all-important when summer airconditioning equipment is running.*

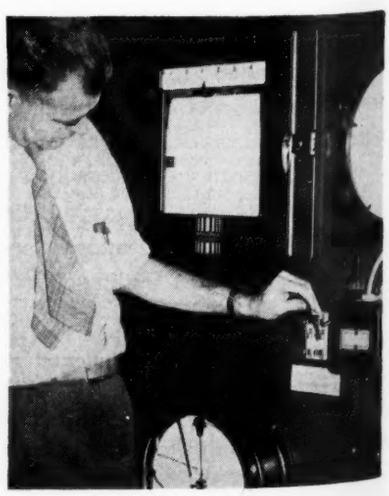
Important points related to maintaining proper humidity in summer have come from Professor Harris's tests of what he calls "forced convectors." The "forced" relates to the use of fans in these units. Located in the rooms to be summer and winter airconditioned, the units are designed to use chilled water in summer when they cool and dehumidify the air in the rooms—and to use hot water during the heating season when they heat the rooms.

Professor Harris has used six "forced convector" room units in his IBR research residence—total input of these was 10,800 Btu, latent plus sensible. An oversize compressor, two-ton capacity, powered these units in summer for cooling and dehumidification.

He now is moving along to investigating the performance of "fan-coil" airconditioning units, which also cool and dehumidify through use of chilled-water coils. Typical units of this type may have centrifugal blowers—one unit can be used to cool an entire floor. The Professor plans to investigate the performance of these units using different control arrangements including zone-control set-ups.

Anyone interested in the technicalities of greater indoor comfort is impressed tremendously by the two test homes which have been described in which heating specialists put heating and airconditioning set-ups through their paces. But there's still more to see at the University of Illinois—vast laboratories in which practically any type of heating or airconditioning equipment can be operated and investigated on a scientific basis.

In Urbana can be seen material evidence on an enormous scale of continuing efforts to provide greater and greater comfort for typical American homes. Efforts to provide greater indoor comfort have not yet produced the ultimate in equipment. A trip to Urbana proves that!



This little *switch, labelled "Heating-Cooling Thermostat Switch," triggers the operation of the entire year-round airconditioning system.*

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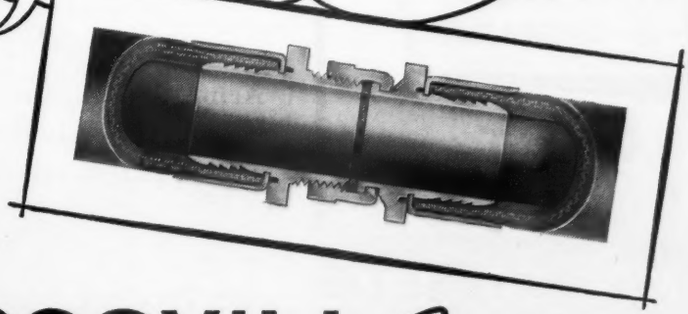

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A.C.T.I.O.N. Program

(Begins on page 36)

ing and Air Conditioning Association, Cleveland, Ohio, in December, 1954, the Oil Heating Institute meeting in Chicago in April, the program was most recently discussed at the Union League Club, New York, on May 25 at a meeting sponsored by Howard L. Spindler, vice president, American Radiator and Standard Sanitary Corp.

The program, it was pointed out at the meetings, works through existing channels of communication, and does not attempt to duplicate or replace other organizations with similar objectives; it is, rather, an attempt to unify those forces.

To aid in the support of the program, a finance steering committee has been organized under the chairmanship of Joseph A. Grazier, president, The American Radiator and Standard Sanitary Corp.

In a review of the new organization's policies, it was emphasized that "No financial support will be solicited or contributions accepted from any group which through its organization might be in favor of influencing pending legislation or suggesting legislation which would be of direct benefit to such a group."

According to the District Director of Internal Revenue Service of the U. S. Treasury Department, contributions made to the Council will be deductible by the donors.

Officers for the Council are as follows: Maj. General Frederick A. Irving (Ret.), president; F. Kramer, vice chairman, Research; Fritz Burns, vice chairman, Field Service; Andrew Heiskell, vice chairman, information; Emanuel Spiegel, secretary; Philip Graham, treasurer; Joseph Grazier, chairman, Finance Committee; Philip Klutznick, chairman, Budget and Audit Committee and Don Campbell, chairman, Nominating Committee.

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❖

Oilfired floor Furnaces Standards issued by UL

UNDERWRITERS' LABORATORIES have issued the 1955 edition of standards for oilfired floor furnaces. It is expected that conformance to this standard will be required of all floor furnaces labeled from now on.

Prepared as a result of careful study by the Laboratories' staff with the assistance of members of the Laboratories' Industry Advisory Conference for Oilburners and other committees representing burner manufacturers, the standard has been approved by the Laboratories' Fire Council.

The requirements are substantially those which have been in effect previously and published in the preliminary report submitted under the date of February 10, 1953.

❖

Acme Fuel Oil Co. bought by Lawrence J. Bennett Co.

CHARLES E. BENNETT, vice president of Lawrence J. Bennett, Inc., West Hempstead, N. Y., recently announced that his company has acquired the Acme Fuel Oil Co., Hempstead.

The merger is the fifth consummated by Bennett in the past three years, and is in line with a general plan of expansion in the Long Island area.

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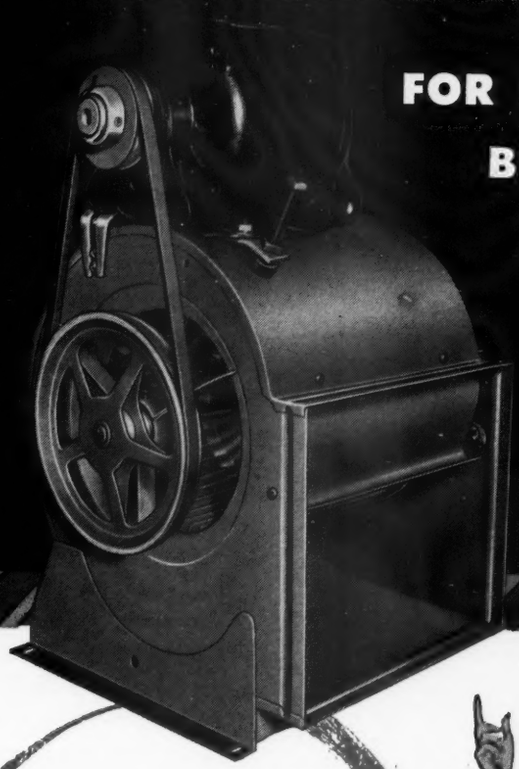

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API Fueloil Committee to study Airconditioning, Class B Stacks

THE FUELOIL COMMITTEE of the American Petroleum Institute's Division of Marketing met at St. Louis on May 24, on the occasion of the regular mid-year meeting of the general marketing group within the Institute. Presiding was M. N. Vining, the Committee's chairman.

In attendance were 25 committee members and about an equal number of guests.

The first action had to do with a letter received by the Institute's president Frank Porter from L. R. Kamperman of Leonard Refineries, Alma, Mich., indicating the writer's serious concern over the growth of airconditioning as being slanted toward other fuels than oil. He had emphasized that the growing trend toward year-round heating and cooling units was inclined to favor gas and electric fuels rather than oil. Kamperman requested that the Institute give this some study and Porter passed the suggestion along to the fueloil group.

After considerable discussion over the impact of electric heating and cooling on our future markets, chairman Vining appointed a committee to explore the subject and prepare a paper for presentation at the Institute's annual meeting at San Francisco in November. Chairman of this special study group is Jack Becker, St. Louis, and members are W. F. Schierholz, St. Louis, Francis J. Schuster, Indianapolis, Charles R. Holloway, Jr., Portland, Oregon, and Robert Gray, New York.

The next principal discussion had to do with the unfortunate competitive situation in the new home market where building codes permit the use of Class B chimneys that are suitable only for gas fuels. Since they are able to accommodate stack temperatures of only 550° or less they naturally exclude oil.

Ralph Becker, managing director of Oil-Heat Institute of America, Inc., told the group of the work his people had done on this problem, principally with the National Fire Protective Association, the national organization of local fire chiefs. At their convention this spring they took cognizance of the problem, put it on their agenda for action a year hence, which is their established procedure.

He told of the OHI resolution adopted at Chicago in April which asked the Flammable Liquids Committee of NFPA to sponsor codes that would limit the use of Class B chimneys to heating loads of 35,000 Btu, which in effect means a space heater, stove or water heater.

Miles Mills, Jr., of Des Moines, substituting for member Ike Carnes of Clinton, Iowa, then presented a resolution adopted the previous week by the Fuels Policy Committee of the National Oil Jobbers Council in which that group had called for some constructive study in the direction of getting an all-fuel chimney adopted as

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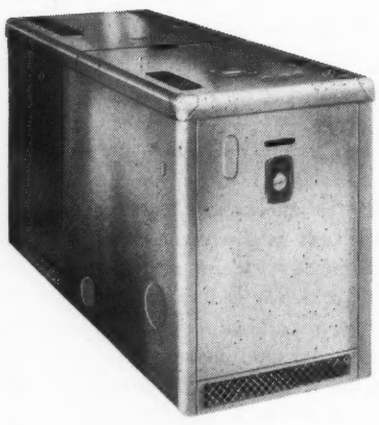

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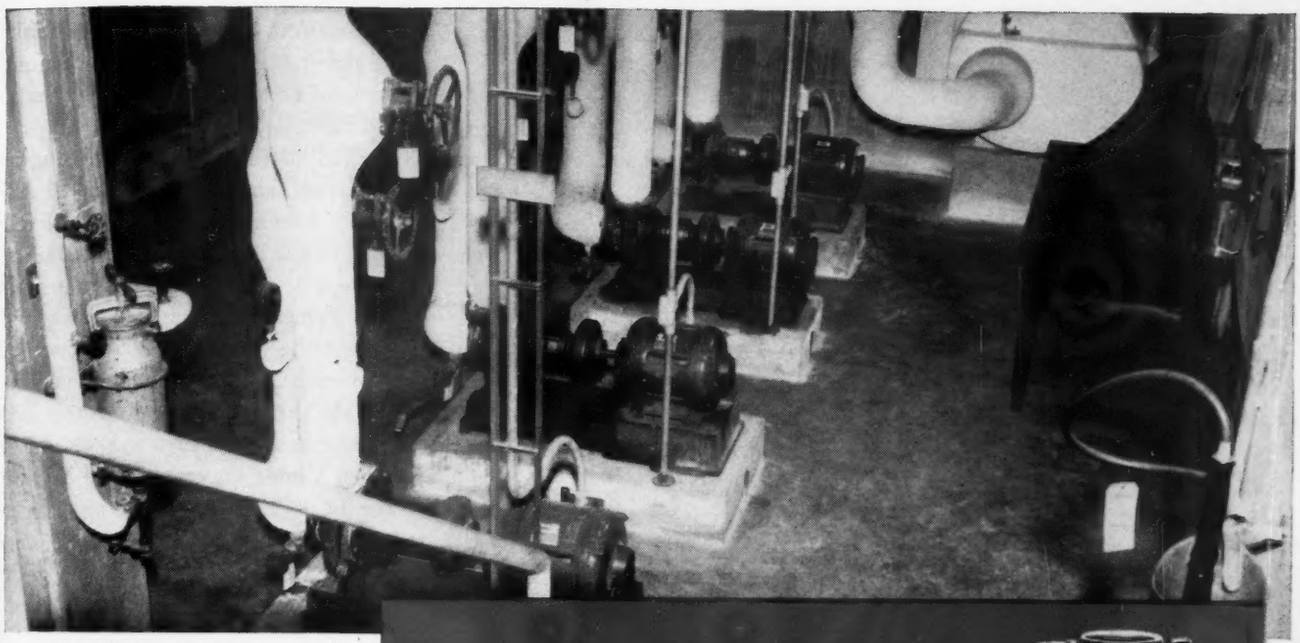

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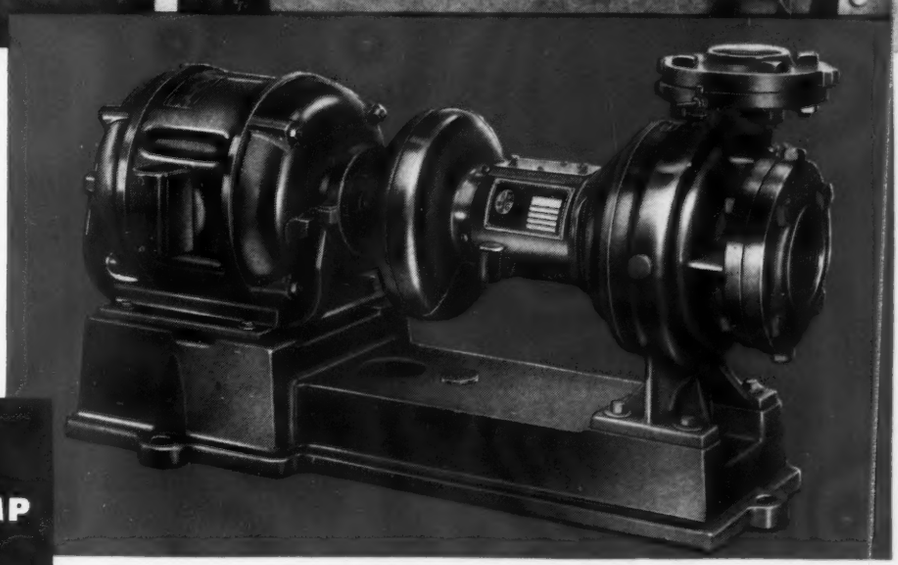

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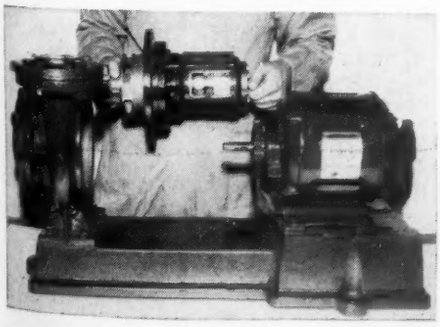

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standard by FHA, VA and the fire chiefs' group. After perhaps a 30 minute discussion on the urgency of this whole problem, chairman Vining asked Joe Collins of Frontier Oil and Refining, Buffalo, to be chairman of a committee to head up such a study and make a comprehensive report at San Francisco. Collins is to recommend other members for that special committee.

As sidelights on the discussion, Ralph Becker told of the action taken by the Empire State Petroleum Association, New York, and W. F. Schierholz told the members that in St. Louis the Better Business Bureau had become interested in the problem to the extent of giving it considerable publicity.

Douglas Smith, San Francisco member, had put together a suggested new charter for the Fueloil Committee at the request of API President Porter and, while generally adopted by the group, the exact wording is subject to review by J. G. Jordan, chairman of the General Marketing Comm. and by the Institute's legal counsel. Essentially it elaborates in detail the Committee's theme song, "Better Living with Oil Heat."

Chairman Vining brought out an invitation from the OHI Regional Advisory Comm. of the Pacific Northwest to the API Fueloil Committee to share a joint meeting in the general San Francisco area in the week preceding the API annual convention in November. This was voted unanimously and about 15 of the members present indicated that they would be there. Vining then established November 10 as the date for the joint meeting to open, with details to be announced after physical arrangements have been made.

This is to be the business session of the committee, but during the actual convention period, November 14-17 inclusive, there will be a public presentation of the various committee papers to all oil men interested in the fuel phase of the industry.

The 25 members present at the St. Louis meeting of the committee were: D. L. Barrett, A. J. Becker, C. N. Blickensderfer, W. F. Briggs, Wiley Butler, J. E. Collins, T. A. Crawford, K. E. DeRosay, W. B. Englebrecht, L. B. Fox, I. L. Goldman, Robert Gray, Charles R. Holloway, Jr., Walter L. Holmgren, J. L. Minner, J. J. Mulvey, G. W. Sanders, W. F. Schierholz, Francis J. Schuster, John W. Scott, W. S. Shockley, Douglas M. Smith, Norman R. Steenstra, E. M. Tobe, Jr., and M. N. Vining.

❖

Chimney Committee formed on permanent Basis in N. Y.

A PERMANENT state-wide committee on chimney construction was organized in New York with the objective of having an all-purpose chimney required in all new houses.

The committee particularly plans to bring the matter to the attention of the Veterans Administration, the FHA and the banks and loan mortgage companies. They will attempt also to secure a revision of the New York State Building Code requiring that all new homes have all-fuels flues.

On April 14 the committee was or-

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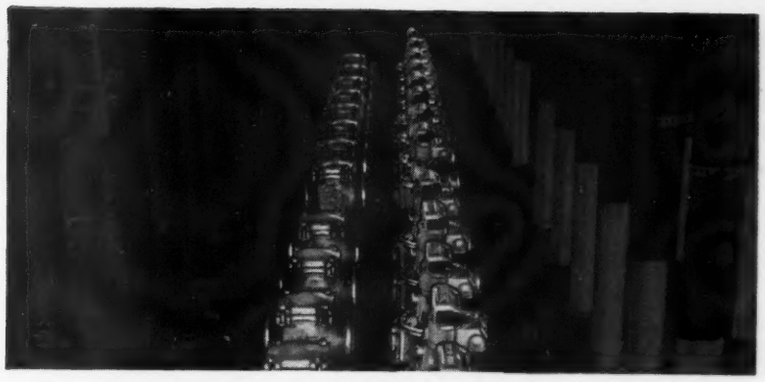
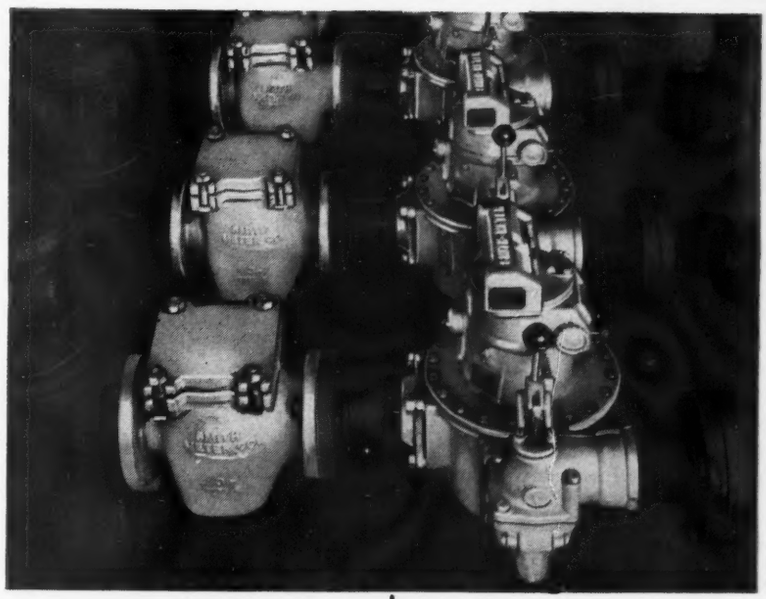


Blending Lube Oil at less cost



Sixteen A. O. Smith T-15 Meters installed on main blending manifold at Gulf Oil Corporations modern canning plant at Charleston, S.C. Sixteen other T-15's are used in individual blending operations. All are equipped with Strainers, Horizontal Counters, Set Stop Counters and Automatic, Slow-Closing Set Stop Valves—all *functional* accessories which let you DO MORE WITH A. O. SMITH METERS.

Save time, space, tankage and manpower. Maintain quality through accurate control. Do all this by blending with A. O. Smith Meters, equipped with time-tested, functional, automatic Slow-Closing Set Stop valves.

Get complete information from nearest representative.

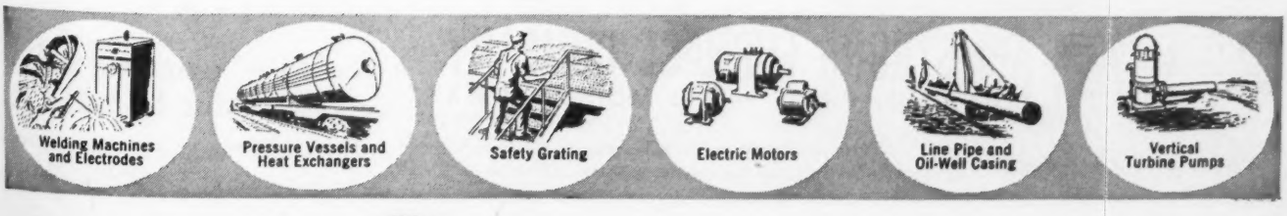
Through research A.O. SMITH WAY OF FLUID POWER *...a better way*

A.O.Smith

CORPORATION

METER DIVISION

Factories: 5715 Smithway St., Los Angeles 22, Calif., P. O. Box 500, Succasunna, N. J. Offices: Atlanta, Chicago 7, Houston 20, Los Angeles 22, New York 17. Canada: Toronto 12, Vancouver 1. International Division—Milwaukee 1, Wis.



ganized on a temporary basis and on May 10 was established with permanent status with these officers: Herbert Spade, E. Robison & Co., Inc., chairman; W. W. Hamilton, The Atlantic Refining Co., vice chairman; and E. D. Cray, New York Petroleum Industries Committee, secretary.

Hamilton will serve as chairman of the finance committee along with Everett Decker, Earl Daniels and with R. H. L. Becker.

Representatives from various organizations representing fueloil and coal interests agreed to serve as an active committee.

Representing OHI: Clark L. Hastings, Rochester Mfg. Co.; J. A. Collins, Sr., Frontier Oil Refining Co.; and R. H. L. Becker, OHI. Empire State Petroleum Association representatives: Earl Daniels, Savory Oil Co.; and Herbert Spade.

PIC representatives: Glen Ostrander, The Atlantic Refining Co.; W. A. Greeley, Socony Mobil Oil Co., Inc.; W. W. Hamilton; and E. D. Cray. Coal Industry representatives: Louis A. Langie, Langie Fuel Service; Everett Decker, Peterson & Packer Coal Co.; and Otis M. Burt, New York State Fuel Merchants Assn.

Ex-officio members are B. Richter Townsend, Chief, Bureau of Fire, Division of Safety, New York; Harry B. Hiltz, ESPA; Charles A. Lockard, ESPA; Robert Gray, FUELOIL & OIL HEAT; and Frank Wilson, API.

❖

Indiana Newspaper Survey shows Hoosiers prefer Oil

ALMOST HALF of the families in the Indianapolis Metropolitan market use oil in their heating systems, according to a survey compiled by *The Indianapolis Star* and *Indianapolis News*.

Coal and coke are still strong in the market, being used in 41.8% of the homes, a drop from 46.3% last year. Oil increased to 46.7% from 44.5%. Gas gained to 9.4% from 7.3%; and electricity showed a slight increase, 0.4% from 0.3%. Other fuels represented 1.7% of the market, about the same as last year.

Nearly three quarters of the homes are centrally heated; 19% have individual stoves, and other types of heating accounted for 6.2% of the total.

❖

Oilport Terminals adds Long Island Facilities

A MARINE FUELOIL TERMINAL, formerly owned by the Metropolitan Petroleum Corp., located at Island Park, Long Island, N. Y., has been purchased by Oilport Terminals, Inc.

In an effort to speed up truck loading, the plant is now undergoing considerable modernization work, including the installation of new racks.

Serving fueloil dealers in the Long Island area at the wholesale and thruput levels, Oilport Terminals' officers are William Giffords, president and Harry Giffords, treasurer.

❖

'Gas Heat' estimates Sales of gas Heating by States

ACCORDING to estimates made in the June issue of GAS HEAT magazine,

Why ARMSTRONG Dealers Make Money...

56+12

ARMSTRONG DEALERS . . . have no warehousing problems, no heavy inventory investment, no long-distance shipping delay. Nearby Armstrong wholesalers carry complete inventories and can deliver at a phone call's notice.

ARMSTRONG DEALERS . . . have to spend just a minimum of their valuable time on installation and adjustment. Armstrong units are designed and constructed to simplify installation and virtually eliminate costly call-backs.

ARMSTRONG DEALERS . . . have the right unit for any job, whether it's heating or cooling. Armstrong's 56 heating units and 12 summer air conditioners cover the widest possible range of installations. Many exclusive Armstrong features offer Armstrong dealers distinct selling advantages over competition.

ARMSTRONG DEALERS . . . have the finest and most powerful merchandising aids to help them sell. Advertising folders, newspaper ads, radio and TV scripts, prospect letters and many other "silent salesmen" help to tell the great Armstrong story. The fascinating new Armstrong Visualizer actually builds an Armstrong furnace, part by part, as the prospect watches.

ARMSTRONG DEALERS MAKE MONEY . . . and there may be an Armstrong dealership available in your area. Call your nearby Armstrong wholesaler now. If you don't know him, drop a line to us at Dept. F for his name.

ACCEPTED FOR ADVERTISING by Today's Health of the American Medical Association

COMMENDED BY THE CONSUMER SERVICE BUREAU OF PARENTS' MAGAZINE

ARMSTRONG FURNACE COMPANY

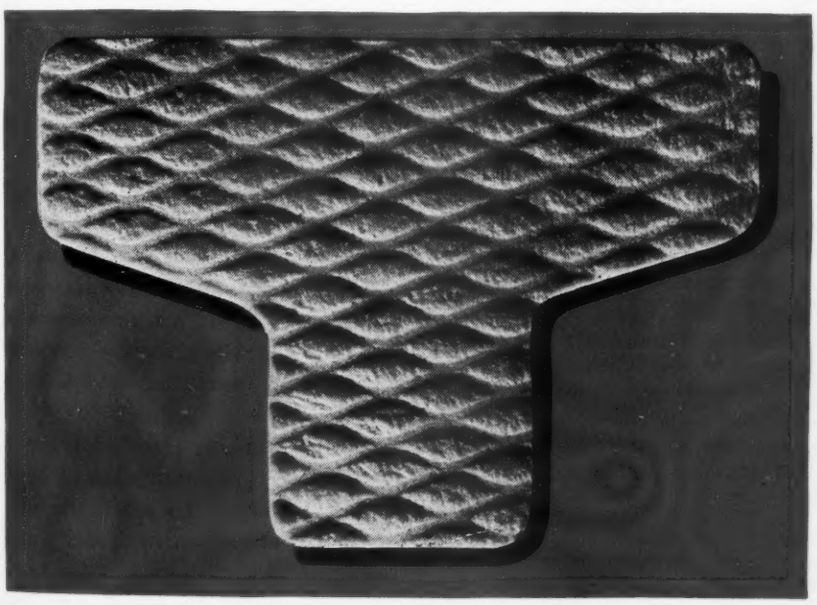
ARMSTRONG FURNACE COMPANY
COLUMBUS, OHIO • DES MOINES, IOWA

Complete Line
Warm-air Furnaces — oil, gas, coal
Summer Air Conditioners — water or air-cooled

Standardize on Skuttle — The line is complete — Parts are interchangeable

A humidifier is frustrated if it hasn't good evaporating plates

Patented Vapoglas Plates absorb more water • Diffuse more • Last longer without clogging • Standard in Skuttle Humidifiers



No humidifier can be any better than its plates—because the plates are the only elements that can do any humidifying. The rest of the device exists merely for supporting the plates and supplying them with water. Any humidifier is thwarted of its life purpose unless it has good plates.

BEST PLATES — A MUST

Hence it is of first importance that the humidifier you install be equipped with the best in plates—that the plates you use for replacement be the best.

VAPOGLAS — THE BEST

By every test, Patented Vopoglas Plates are the best. They absorb 73% more water, (pound for pound). They have 83% open space (to resist clogging) against 55% for the next best. They are lighter, sturdier. Drop tests show they resist breakage better.

Patented Vapoglas Plates are made of pure glass wool compressed and stabilized under heat.

All Skuttle Humidifiers in which plates are used have Vapoglas plates.

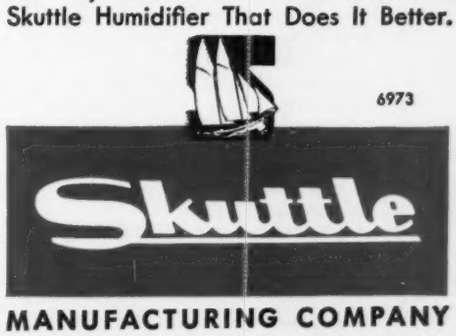
If it's a Skuttle—it's a better Humidifier with better plates.

For Any Warm Air Heater There's A Skuttle Humidifier That Does It Better.

Note these test results on evaporating plates

Type Plate	Dry Weight Ounces	Wet Weight Ounces	Gain Dry to Wet*	Open Space In Plate#
Patented Vapoglas	1.5	3.6	140%	83%
Plate B	3.4	4.6	38%	55%
Plate C	1.67	2.61	54%	42%
Plate D	9	11.5	28%	27%

Drop test on concrete floor shows Vapoglas has greatest resistance to breakage.
*Indicates water absorption.
#Indicates resistance to clogging with water chemicals.



MANUFACTURING COMPANY
MILFORD, MICHIGAN

Fueloil & oilheat

combined installations of central, gas-fired heating units rose to 947,195 for 1954. This is an increase of 147,005 over the previous year's figure of 800,190.

Made up of three basic type units, total figures for 1954 are as follows: Conversion burners—223,550 up 23,215 from 1953's sales of 200,335; Gas furnaces—652,530 up 134,720 over 517,810 sold in 1953; and Gas boilers—71,115 down 10,930 units under the 82,045 retailed in 1953.

Broken down by areas and states, the 1954 figures are as follows:

Central Gas Heating Sales
1954

	Conv. Burners	*Gas Furnaces*	*Gas Boilers*	*Total Central*
Maine	90	195	35	320
New Hampshire	200	720	30	950
Vermont	45	130	15	190
Massachusetts	3,600	3,590	1,840	9,030
Rhode Island	315	390	135	840
Connecticut	2,725	1,305	400	4,430
NEW ENGLAND	6,975	6,330	2,455	15,760
New York	18,240	34,520	8,540	61,300
New Jersey	11,580	21,270	9,935	42,785
Pennsylvania	13,210	39,740	13,895	66,845
Delaware	25	780	200	10,005
Maryland	1,340	9,570	3,220	14,130
Dist. of Columbia	560	8,330	1,205	10,095
CENTRAL ATLANTIC	44,955	114,210	36,995	196,160
Virginia	690	6,175	1,635	8,500
West Virginia	1,140	3,785	325	5,250
North Carolina	425	2,870	315	3,610
South Carolina	90	525	20	635
Georgia	1,185	8,420	450	10,055
Florida	90	4,045	65	4,700
SOUTH ATLANTIC	3,620	25,820	2,810	32,250
Michigan	22,535	16,965	1,885	41,385
Ohio	46,430	70,845	5,315	122,590
Indiana	11,670	16,185	1,485	29,340
Illinois	38,585	39,610	6,630	84,825
Wisconsin	4,290	7,505	625	12,420
Minnesota	11,020	17,030	1,790	29,840
Iowa	12,745	19,770	940	33,455
Missouri	3,490	28,385	1,335	33,210
Kansas	715	11,095	410	12,220
Nebraska	3,955	13,115	645	17,715
North Dakota	335	1,890	120	2,345
South Dakota	805	2,935	200	3,940
NORTH CENTRAL	156,575	245,330	21,380	423,285
Kentucky	3,155	10,460	495	14,110
Tennessee	1,185	9,655	450	11,290
Alabama	1,835	4,960	270	7,065
Mississippi	65	2,220	115	2,400
Arkansas	245	3,850	85	4,180
Louisiana	360	10,050	370	10,780
Oklahoma	315	11,160	190	11,665
Texas	135	53,705	955	54,795
SOUTH CENTRAL	7,295	106,060	2,930	116,285
Montana	245	3,655	235	4,135
Idaho	200	325	5	530
Wyoming	225	2,220	85	2,530
Colorado	1,320	24,665	640	26,625
New Mexico	170	6,980	110	7,260
Arizona	180	13,835	220	14,235
Utah	870	10,245	220	11,335
Nevada	135	1,695	120	1,950
MOUNTAIN	3,345	63,620	1,635	68,600
Washington	180	1,895	50	2,125
Oregon	45	1,045	70	1,160
California	560	88,220	2,790	91,570
PACIFIC	785	91,160	2,910	94,855
UNITED STATES	223,550	652,530	71,115	947,195

Warm Air Group moves; Opens WHAM campaign

BECAUSE OF THE continued expansion of the warm air heating and air-conditioning industry and the resulting increase in responsibilities brought about by this growth, the headquarters' offices of the National Warm Air Heating and Air Conditioning Association have been moved to larger quarters at 640 Engineers Building, Cleveland, Ohio.

This is the seventh time in the last 15 years that the Association has found it necessary to enlarge quarters according to George Boeddener, managing director of the organization.

Examples of expansion in Association's activities, Boeddener said, included an increase in manuals handled during the first four months of 1955. It was pointed out that the Association had already distributed two-thirds as many manuals as were distributed during all of 1954, the largest year in the group's history.

It was also revealed that the second Operation WHAM campaign has begun. The operation takes its name from the capitals of the title, Warm Air Heating and Air Conditioning Modernization, and is a promotional program whereby dealers can unite their efforts in developing the modernization market for new installations in their own localities.

The campaign was based on the recognition of the following points: For seven years the annual construction of new residential units has hovered around the million-per-year figure. The annual sales of warm air furnaces has been approximately the same number.

It is generally estimated that about 20% of warm air heating dealers account for nearly 80% of the installations. The remaining 80% of the dealers appear to be in a severe competitive situation, which, in turn is resulting in poor installation and service methods.

All this is taking place while a potential modernization market of over 20 million homes lies practically untouched, un-influenced, and unreached.

Consequently, the objective of Operation WHAM is to aid the warm air heating and airconditioning industry to open up this modernization market.

At the same time, it was announced that the newly-created post of technical secretary of research for the Association would be filled by Herbert T. Gilkey, former research

Gilkey

NEW! 6" BULK PLANT METER

Famous sustained accuracy of Red Seal meters now available for high speed loading-to 1,000 gpm

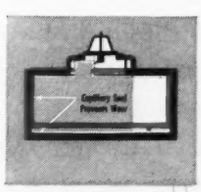
By loading your own and your customers' big gasoline and oil trucks in half the time . . . by eliminating long waiting lines during peak hours . . . and by faster loading of heavy oils too, this new 1000-gpm. Red Seal meter is worth its weight in gold!

Capable of metering well over $1,000,000 worth of product every year, it has the same accurate, trouble-free oscillating piston principle and design features which have made other Red Seal meters widely preferred. At Neptune's modern proving grounds in Wallingford, Conn., it has passed with flying colors exhaustive endurance, accuracy and weather tests under actual operating conditions.

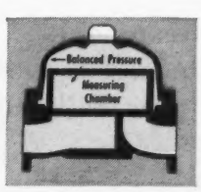
Truly, here is a big meter you can trust every minute . . . without need for frequent adjustments or repairs to compensate for wear. Ask your Neptune representative or jobber for full details.

RS-9

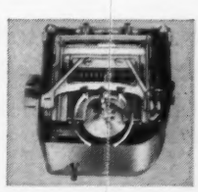
Measuring chamber has only one moving element. No complicated mechanism to get out of adjustment. Occasional dirt won't damage a Red Seal . . . chamber is easy to remove, easy to clean.



"Capillary" seal . . . a thin film of liquid . . . prevents wear between piston and chamber. Seal is rigidly controlled by precision machining . . . stays constant through long accurate life.



Double-case design eliminates distortion of measuring chamber caused by pressure or piping stresses. Prevents binding and uneven wear.



This patented "Gear Shifter" firmly locks calibration. Cannot drift or slip between tests. Easy to adjust when required, but it's seldom required.

Available with Print-O-Meter or direct-reading registers, or with Neptune Remote Control Metering System.

NEPTUNE RED SEAL METERS

Accuracy You Can Bank On

neptune

RED SEAL METERS

NEPTUNE METER COMPANY, 19 West 50th St., New York 20, N. Y.

General view *of new offices occupied recently by the National Warm Air Heating and Air Conditioning Association.*

associate at the University of Illinois.

Stationed at headquarters, Gilkey will serve as a coordinator of the Association's research program, and will translate research findings into tangible data to be included in design and installation manuals published by the group.

Well known in the industry for the many technical papers he has written, especially those reporting the results of the organization's research investigation at the University of Illinois, Gilkey was appointed as part of the Association's efforts to provide better system design and installation knowledge to dealers throughout the nation.

There are many, many thousands more

Fulflo Filters®

than any other make on America's Oil Burners.

Some time between now and cold weather every one of these FULFLO Filters should have a new Honeycomb Filter Tube.

Don't delay ordering your Fall supply of Honeycomb Tubes from your jobber. Later his stock may be depleted.

Be sure to have Honeycomb Filter Tubes on hand when you need them. The time to check your stock and order your Fall requirements is NOW!

AVOID SERVICE CALLS WITH FULFLO FILTERS

COMMERCIAL FILTERS CORPORATION

MELROSE 76, MASSACHUSETTS

Swedish Distributor has 60th Anniversary

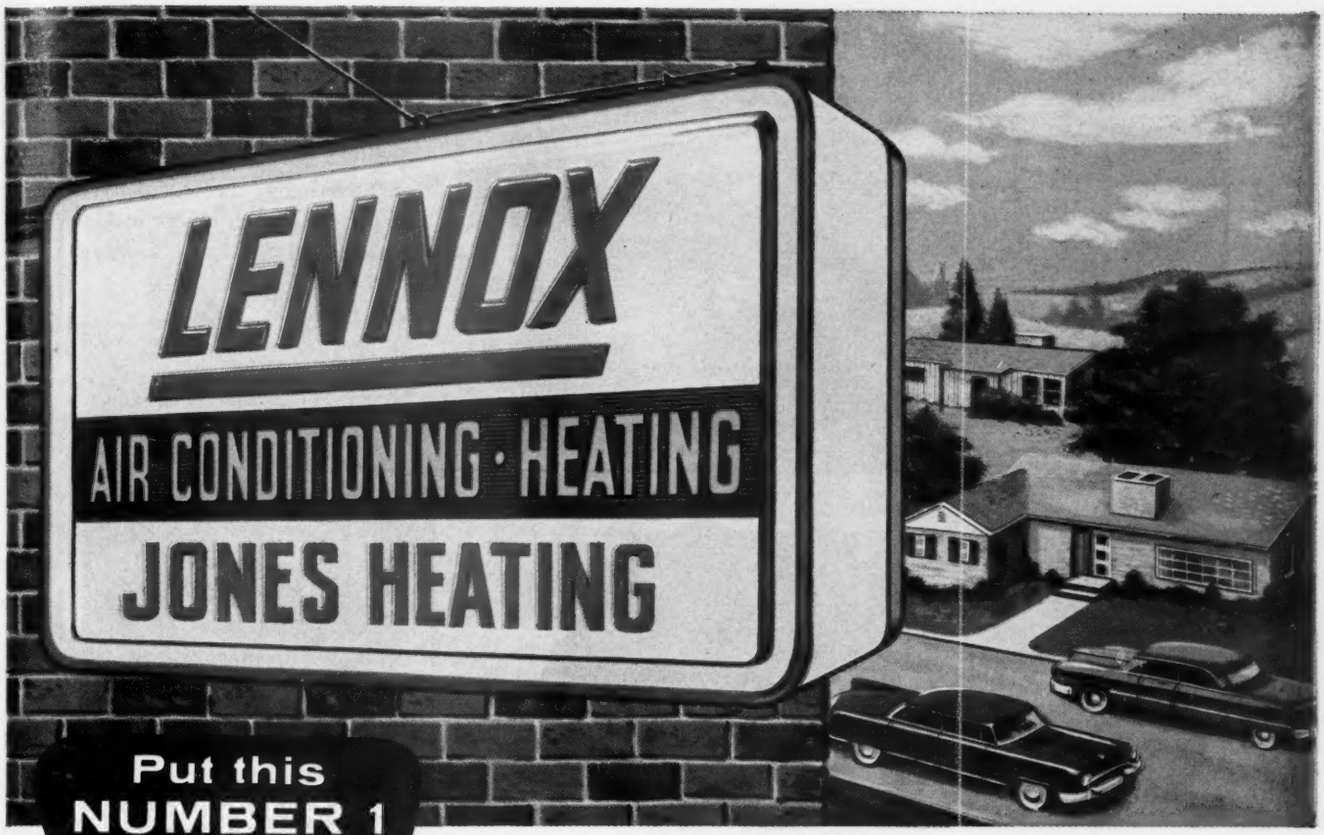
THE SWEDISH firm, Ingeniorsfirma Hugo Tillquist, Stockholm, recently celebrated its 60th year in business. The company is one of the oldest distributors of Enterprise oilburners in the world.

Founded in 1895, the company has represented manufacturers of electrical equipment from all over the world. As the business expanded a machinery department was added, and a separate subsidiary company, Hugo Tillquist Oljeeldnings AB was formed to specialize in oilheating equipment.

Hugo Tillquist, the founder, was interested in all kinds of inventions which he developed for his country's industry. Among the inventions that he had an interest in were the Platen-Munther refrigerator, garage contacts, locking nuts, bearing metals, anti-corrosive alloys, self-cleansing spark plugs and bicycle motors.

He died in 1938, but his two sons, Olof and Sven, who joined the company in 1926, by 1935 had assumed management of the business. Manufacturers from the United States, England, Germany and Switzerland are represented by the company.

More than 100 people, plus 20



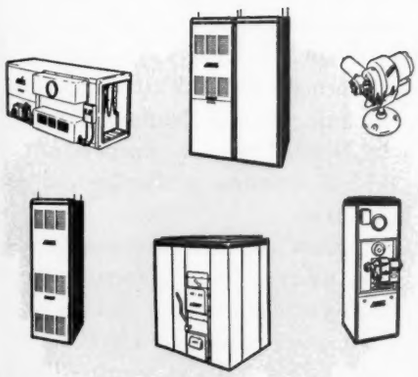
Put this NUMBER 1 NAME next to yours

Be the No.1 name locally!

YOU'LL SELL MORE... Both heating and air conditioning ...Profit more than ever with LENNOX

From coast to coast . . . from Toronto to Texas . . . more dealers than ever are displaying the Lennox sign. It bears a name you can proudly place beside your own . . . because for over 60 years the name Lennox has been associated with dependable, economical home comfort. And now this number one name in warm air heating is bringing you the outstanding "deal" today. The finest products in the industry . . . the most complete line to sell: over 100 heating and air conditioning models . . . the greatest dealer assistance program in the entire industry including an exclusive tailor-made sales kit for your builders. Supported by one of America's biggest *consistent* national advertising programs, too. Get the facts . . . find out *why* the Lennox dealer is *the* prominent dealer locally.

In warm air heating more families buy LENNOX than any other make.



MAIL COUPON FOR INTERESTING PROFIT STORY

The

LENNOX FURNACE COMPANY

Marshalltown, Iowa
Syracuse, N. Y. • Columbus, Ohio
Salt Lake City, Utah • Los Angeles, Calif.
Ft. Worth, Texas • Decatur, Ga. • Des Moines, Iowa
In Canada: Toronto and Calgary

THE LENNOX FURNACE COMPANY
(Address your nearest branch. See locations at left.)

I'd like to have information about the heating and air conditioning opportunities for Lennox dealers. I understand this does not obligate me in any way.

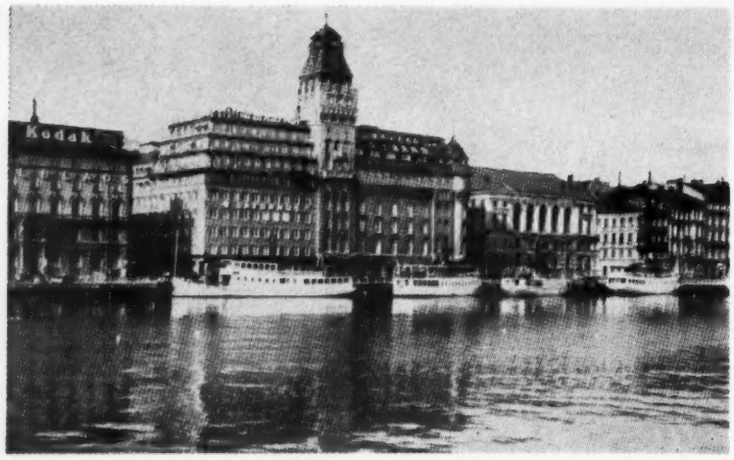
COMPANY NAME_____

ADDRESS_____

CITY_____ STATE_____

MY NAME_____

fueloil & oilheat



Exterior *of building in Stockholm in which is located the main office of Tillquist's firm which just recently celebrated its 60th anniversary.*

qualified instrument technicians, are employed by the company, which maintains branch offices in Goteborg, Malmo and Sundsvall, Sweden.

❖

Norbute completes Merger with Jackson and Church

ACQUISITION of Jackson and Church Co., Saginaw, Mich., by the Norbute Corp., New York, N. Y., was announced jointly recently by Clifford W. Stuart, president of Jackson and Church and Nicolas M. Salgo, president of Norbute.

Although preferred stock of Jackson and Church and 99% of the common were exchanged for Norbute common to effect the merger, the exchange rate is such that the Jackson and Church group will have a dominant voice in Norbute operations. Also, Jackson and Church continues as a separate corporation with no change in management.

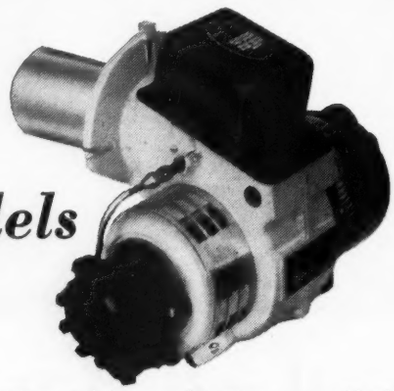
Established in 1881, the Saginaw, Michigan corporation operates several sections, chief among which is the winter airconditioning equipment section, processors of all types of forced warm air furnaces for both commercial and domestic purposes. Norbute, formerly the North Butte Co., operates in the field of uranium production and exploration.

Officers and their positions for the new organization who formerly were principal owners of Jackson and Church are as follows: David L. Perrot, chairman of the board; Clifford W. Stuart and Lawrence S. Redford, vice presidents.

Total sales for Jackson and Church including government defense work during 1954 totalled $6 million.

Included on Norbute's board is William Zeckendorf, president of Webb & Knapp, Inc., nationally known real estate development concern. Although Zeckendorf is a major stockholder in Norbute, the announcement emphasized that his interest was as an individual.

7 *new models*



1 Over 20 different firing combinations . . . with the new "Spitfire" made especially for furnace and boiler manufacturers. That's Model F-285, Nu-Way's newest. Firing range: .65 to 2.85 gallons per hour.

fit any job . . .

		MODEL
2	.65 to 1.75 gal. per hr.	IXL-175
3	1.75 to 3.0 gal. per hr.	IXL-300
4	2 to 5 gal. per hr.	XLO-500
5	3 to 8 gal. per hr.	CO-800
6	8 to 15 gal. per hr.	XL-1500
7	15 to 20 gal. per hr.	XL-2000

There's a Nu-Way Oil Burner to fit almost any job — large or small, residential or commercial. Every model is engineered with features like 0.0015 inch motor pump alignment . . . sand-cast aluminum alloy housing . . . dependable transformers, manufactured extra-heavy by Nu-Way . . . easy servicing . . . in-operation nozzle adjustment . . . adjustable floor, flange or mounting. No wonder Nu-Way burners are standard equipment on boilers and furnaces made by so many leading manufacturers! Write today for Bulletin N1132 on new oil burners.

Nu-Way OIL HEATING EQUIPMENT

THE *Nu-Way* CORPORATION
ROCK ISLAND, ILLINOIS

Nu-Way is a member of O. H. I. and I. B. R.

Automatic Oil Heat Exclusively Since 1921

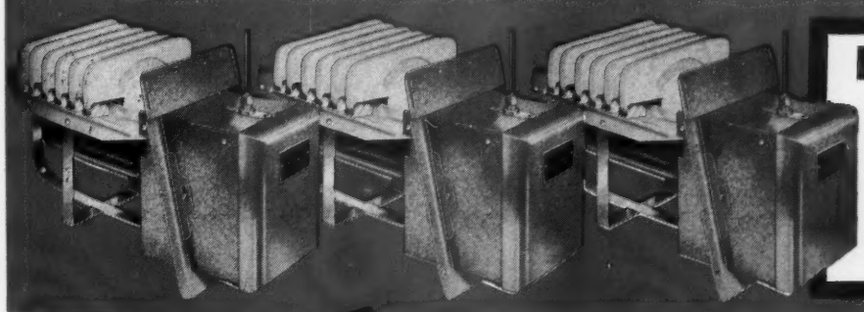
AUTO-FLO CORP., IN COOPERATION WITH PARTICIPATING WHOLESALERS WILL GIVE YOU A . . .

FREE

Auto flo FUEL OIL FILTER

WITH THE PURCHASE OF...

3 Auto flo "100" AUTOMATIC HUMIDIFIERS



INTRODUCTORY OFFER!
JUNE 15th TO AUG. 15th
GOOD IN THE U.S.A. ONLY!

ORDER NOW FROM YOUR WHOLESALER

NO SUMMER SLUMP!
BIG PROFITS in your OFF SEASON
IF you sell AUTO-FLO Heating Accessories
And you KEEP your PROFITS when you install quality Auto-flo Heating Accessories—no loss of profits in expensive service call-backs.

AUTO-FLO CORP. 14590 SCHAEFER, DETROIT 27, MICH.

Dealer school is Featured at Maryland OHA Convention

A SCHOOL on dealer management and sales was among the features of the Oil Heat Association of Maryland's first annual convention held at the Stafford Hotel, Baltimore, Maryland, on May 16-17.

Conducted by R. F. Horan, merchandising manager for Perfex Controls Div., Iron Mountain, Mich., the school was divided into two sections, one on the "Art of Salesmanship," and the other on "Dealer Management."

Breaking the first topic down into three "arts," Horan told the group that sales result from prospecting, presentation, and closing. By prospecting, Horan meant visiting, getting to know how to meet people, and thus causing them to listen to what the salesman has to say. Presentation, he said, was the art of story-telling. The story should include a background of the company, a discussion of some of the personalities of the people the customer will be dealing with, a review of the results of the heating survey, some explanation on the technical side about the unit to be sold, and finally, if possible, testimonials from people who have purchased similar type units from the company.

In closing a sale, Horan stressed tenacity. He felt that following the presentation, the salesman never again would be in as favorable a spot for closing. He suggested that the best method for a new salesman to learn to close was to accompany his chief through a number of sales.

The second session of the school was devoted to dealer management. Horan cautioned the oilheating men against cutting prices, pointing out that if the dealer lowers his original price, the customer often gets the idea that the dealer was dishonest to begin with. The only alternative to price-cutting, he maintained, was to provide additional accessories. If it becomes absolutely necessary to cut the price of a unit, Horan emphasized that a personal survey should be made. "Don't cut prices in the office, cut if you have to, but do it in the field," he stressed.

Concerning estimating, the Perfex merchandiser suggested setting up an eight column sheet which would provide the following categories: name of the client; retail unit sales price; material used in installation; inside and outside labor; trucking and service reserve; total; sales commission; gross profit; major equipment used; the unit should have been priced; and profit or loss on the installation. Should the dealer show too many losses on installations, then he knows that he is pricing too low; conversely, if the profit appears too high, the dealer should consider the possibility that he is pricing himself out of the market.

In addition, each installation's record should have a separate envelope, specifying the various items used on

(*Please turn to page* 108)

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NEW! "Controlled Filtration" Cartridges
NEW! Modern Package Design

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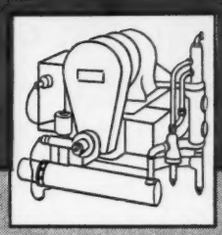

COMMERCIAL & INDUSTRIAL oilburning

SECTION

fueloil & oil heat

NEW YORK

COMMERCIAL & INDUSTRIAL oilburning

Automatic Firing with No. 6 Fueloil

Details of a Job reported to give readings of 15.5% CO_2 with No. 1 S-B smoke

by
Jack Jordan*

AUTOMATIC FIRING with No. 6 fuel-oil has long been the boast of salesmen and the despair of servicemen. Most heavy-oil burners available today perform reliably but do demand maintenance for cleaning nozzles or cups, oil strainers, oil heaters and boiler heating surfaces. Burner nozzles or cups usually require maintenance from once a day to once a week dependent upon the grade of oil used and the burner design.

Oil strainer maintenance varies dependent upon the size of the strainer and the quality of the oil. Boiler heating surfaces require cleaning as a direct function of the combustion efficiency of the burner. If the products of combustion contain unburned fuel as either smoke or vapor, boiler surfaces will require cleaning much more often than is necessary if the products of combustion are clear.

In the July, 1954 issue of FUEL-OIL & OIL HEAT *appeared an article entitled, "How Automatic is No. 6 Oil?", which pointed out that installations using No. 6 fuel-oil are not fully automatic in the sense that domestic oilburner installations are, but that such heavy-oil installations can be surprisingly automatic considering the amounts of fueloil they use daily and the array of auxiliary equipment included in these installations.*

The article concluded with the statement that many buyers of big-burner jobs are finding out late that the burners they bought are "not as automatic" as they should be in the opinions of the buyers.

Jack Jordan, after a study of the article described, wrote up his comments on it, then prepared the accompanying article, which describes his version of an installation which uses No. 6 fueloil and is fully automatic to the ultimate degree.

The burners Mr. Jordan describes are not of the type used most widely for automatic firing of No. 6 fueloil. Mr. Jordan's ideas about barometric dampers and motorized stack dampers will surprise many engineers working in the field of commercial-industrial burners—as will his combustion-test instrument readings. In view of these facts, the editors of FUELOIL & OIL HEAT *expect letters about this article, from commercial-industrial oilburner experts. Letters from readers always are welcome.*

Whereas usually smaller burners of the make and type described in the article are given 100% of air for combustion at 2.5" wc—and larger burners are given such air at pressures of 5.0" wc or somewhat higher, on the installation described in this article the burners are given 100% of air for combustion at the unusually high pressure of 12 osi (ounces per square inch). That important factor should be taken into account in judging Mr. Jordan's ideas about draft control.

*Assistant Sales Manager, Boiler-Burner Division, The North American Manufacturing Company, Cleveland, Ohio.

This article describes a recent installation which approaches "automatic firing." It still is necessary to provide maintenance but the maintenance time is cut to a minimum. The significant point is that the oil nozzles and boiler heating surfaces need be cleaned only once a year!

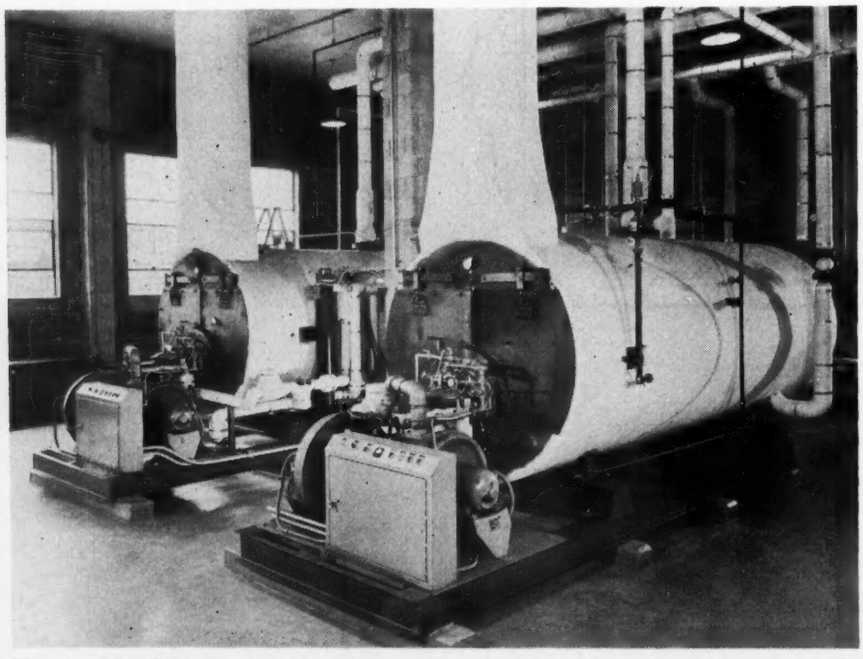

Fig. 1—*North American 214-8 Flame King Oil Burners mounted on Farrar & Trefts #3150 Scotch marine boilers at Rike Kumler Warehouse in Dayton, Ohio.*

Two wet-back Scotch-marine boilers fired by low-pressure air atomizing heavy-oil burners were placed in operation on November 10, 1954 at The Rike Kumler Warehouse in Dayton, Ohio. The boilers appear in Fig. 1. Consulting Engineers are Abbott & Merkt of New York. Heating Contractor is the H. J. Osterfeld Company, Dayton, Ohio, and the burner and boiler distributor is The James B. Rishel Company of Dayton, Ohio.

A successful No. 6 oil installation is the result of careful attention to all details. The burner distributor and the heating contractor coordinated closely on this job. Installation of the oil suction line is an example of the careful workmanship provided by the H. J.

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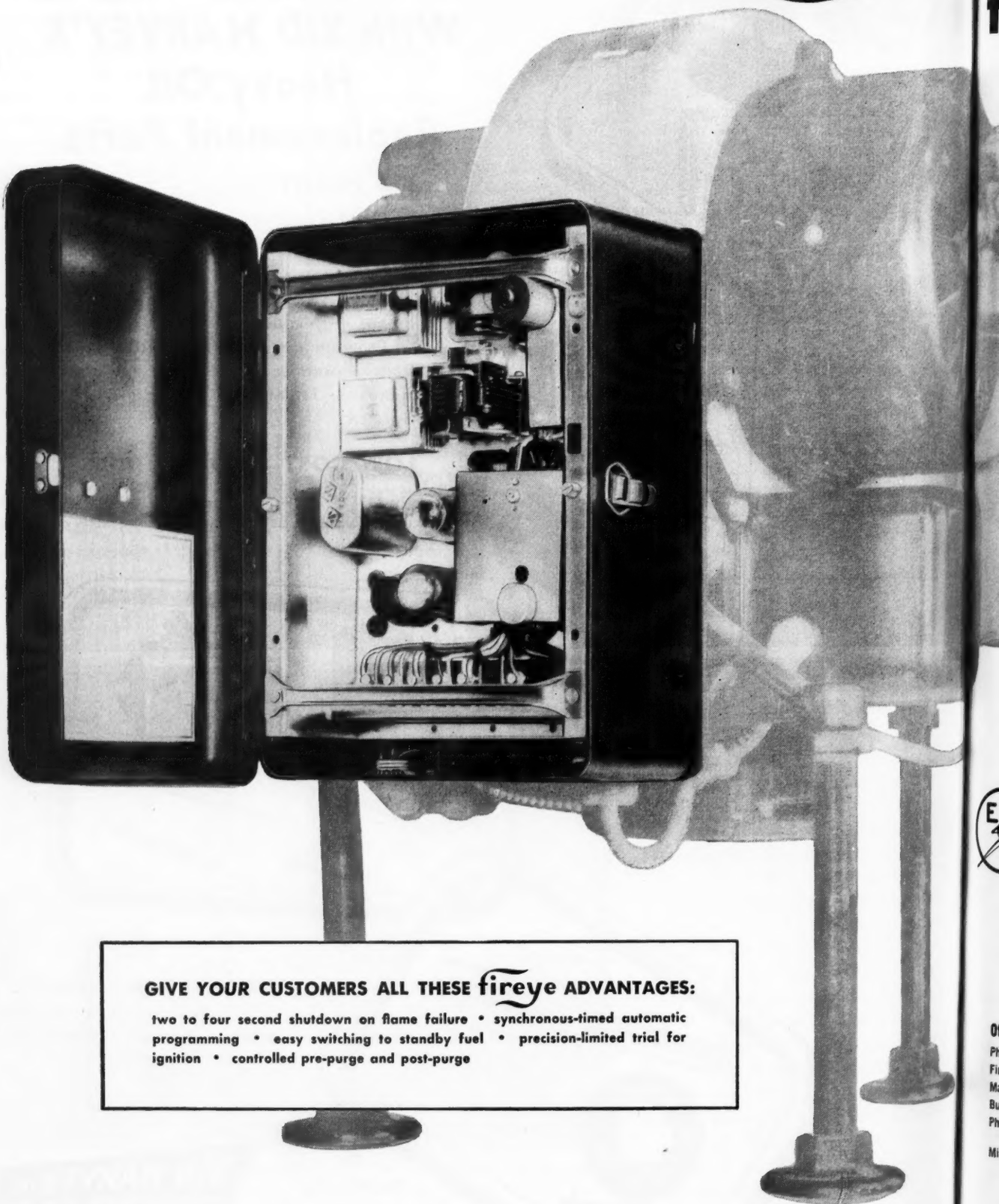

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Osterfeld Company. After the suction line was completed, the contractor tested it by application of 100 psi compressed air for 24 hours. Because the pressure dropped below 90 psi in the first test, a defective pipe fitting was replaced. There has been no subsequent problem whatsoever with suction line air leaks which are the cause of common service troubles encountered on many installations.

The oil to be burned was specified as No. 6. The first load delivered to the tank was comparatively light No. 6 oil, viscosity 60 SSF @ 122°F. As is usual for No. 6 installations, subsequent loads were different. An analysis of the oil in the tank at the time this article was written was:

Gravity	16.5° API
Viscosity	200 SSF @ 122° F.
Pour	65° F.
Flash	200° closed cup
Sulfur	0.65%
BS & W	0.30%

The oilburners require 25 to 30 psi pressure at the Ratiotrol (ratio control device) inlet and 200°F. oil temperature was found best on this installation. The oil pump system is of the remote-pump type with diaphragm type valves controlling the oil pressure. The tank suction stub and oil lines from the tank (including those in the boiler room) are heated by electric resistance—the system was designed by Fluid Systems, Inc.

The two Viking V-belt drive pumps have integral spring-loaded pressure-relief valves. Each pump has sufficient capacity to supply oil for both boilers. The oil pumps operate continuously and recirculate oil through the Ratiotrol (near the burners) at all times.

The oil heating equipment consists of the Fluid Systems equipment mentioned above plus an electric heater and a below-the-waterline heater for each boiler. The below-the-waterline heaters raise the oil temperature to about 165°F.—the electric heaters then boost the oil temperature to 200° F. The electric heaters are of the low-watt density-input type, therefore little maintenance will be needed for them even though they work continuously.

A thermal switch in the oil line near the burner prevents burner operation when the oil temperature is below 180°F. Incidentally, the thermal switch was shunted out for the initial start-up and the burners started nicely using 140°F. oil provided by the electric heaters.

Twenty-five to thirty psi oil pressure at the Ratiotrol (ratio control device) is necessary. Atomization does not result from oil pressure—as a matter of fact, the oil pressure at the burner tips does not exceed 1 psi at any time. Atomization of the oil is accomplished by the swirling stream of 24 osi blower air through the stationary vanes in the oil atomizer (Fig. 2).

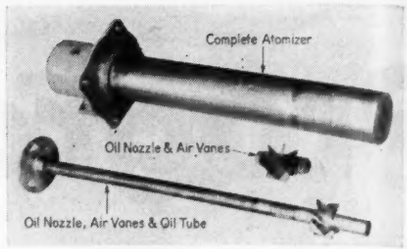


Fig. 2—*Oil atomizer of 214-8 Burner. Note the large areas through which low pressure air and oil can flow without clogging.*

The control panel contains an electronic combustion safeguard (Fireye FP-2 Model 1008) plus an Amperite timer tube which insures warming of the tubes in the electronic combustion safeguard before the burners start. Trial-for-ignition timing is limited to 15 seconds. A blast gas pilot must be ignited and proved before the oil is turned on. Ignition is smooth and burners are usually in operation within 3 to 4 seconds after the limit switches call for oilburner operation. Burner operation is fully automatic—a burner starts and stops when its smallest flame is too large for the load on the boiler.

The burner nozzles were serviced for the first time on February 23, 1955 when an inspection call was made to obtain data for this article. No substantial deposits were found in the nozzles. Nozzle cleaning was not necessary in spite of the fact that the boilers and piping were insulated after the burners were in operation resulting in much dust and lint in the boiler room. It should be necessary to clean the atomizer nozzles only once a year. Most dust and lint particles pass through the atomizer. The holes through which the oil is sprayed are approximately 1/16" in diameter and were clear at the time of the inspection call.

No turbulators are in the boiler fire tubes. The tubes had not been cleaned at the time of the inspection call, and the stack temperatures indicated that cleaning was not necessary. This also

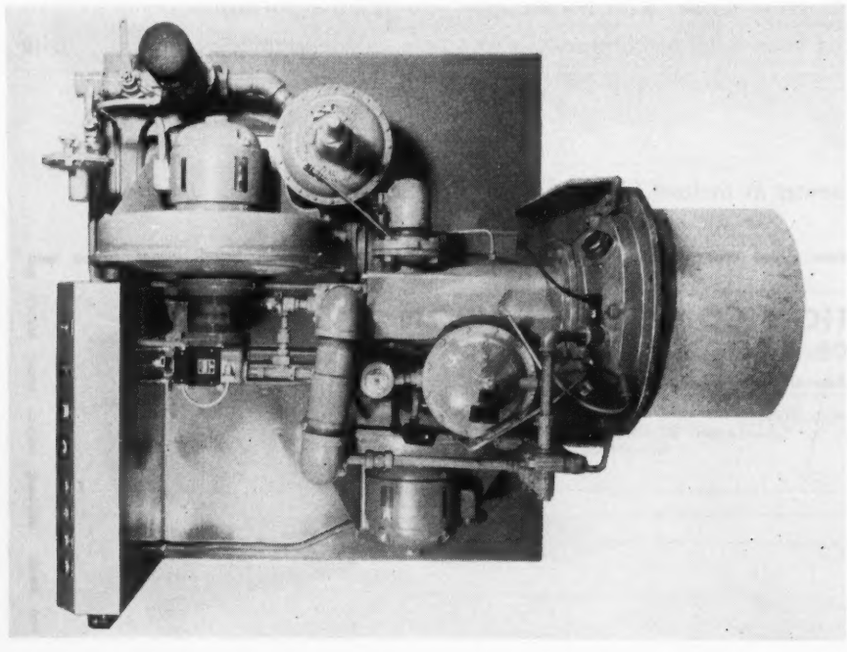


Fig. 3—*Top view of North American 214-8 Flame King Dual-Fuel Burner ready for mounting on Scotch marine boiler skids.*

was indicated by the Shell-Bacharach smoke readings (generally No. 1) indicated on the service report. The Shell-Bacharach smoke readings are obtained by forcing a measured quantity of products of combustion through a filter paper and comparing the darkness of the resultant spot with a series of graded comparative spots. A S-B spot of No. 5 or less is generally considered to be satisfactory with No. 6 oil burners and the S-B spots of No. 1 obtained in this installation indicate complete fuel burning with no visible stack smoke whatsoever.

As Fig. 3 shows, the burner tile is supplied with the burner. This burner tile has long life, thanks to the method of introducing air into the burner. Even after the burner has operated continuously a long period, the tile shows little heat after the burner is stopped. The burner tile is surrounded by plastic refractory as illustrated in Fig. 4. This is the only refractory in the boiler—the boiler rear wall is a water wall and no refractory is used in the firing tube. The flame extends approximately 7 feet down the firing tube when the burner is operating at

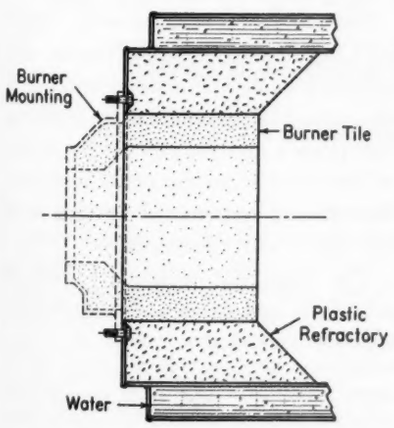


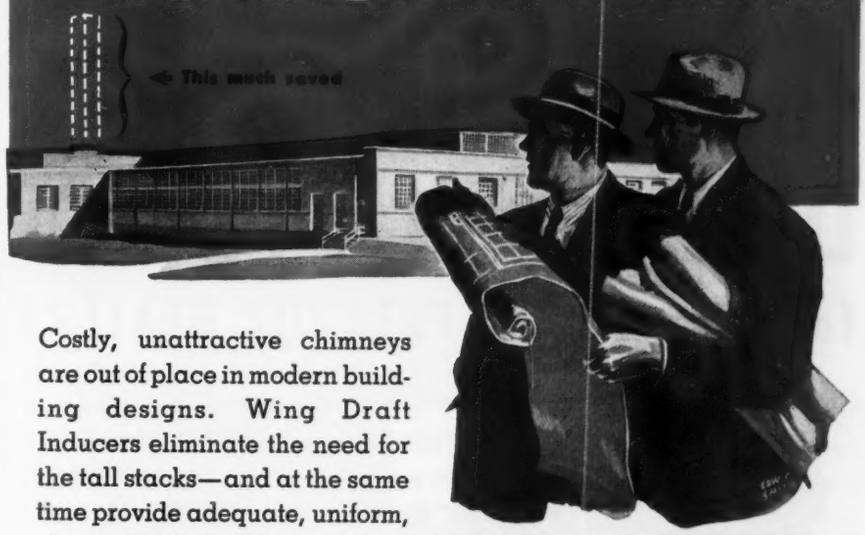
Fig. 4—*Cross sectional view of refractory necessary to mount 214-8 North American Burner on Farrar & Trefts #3150 Scotch marine boiler.*

full capacity. The burner fires modulate over a 4 to 1 turndown range.

CO_2 readings as high as 15.5% are readily obtainable with a #1 Shell-Bacharach reading. However, good general practice is to operate at CO_2 slightly lower than maximum obtainable. This gives a margin of safety.

The boilers vent to individual stacks which rise to a height of 28 feet above

We got rid of the high stack problem by using Wing Draft Inducers



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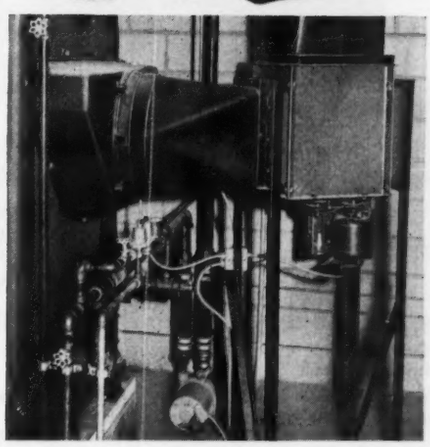

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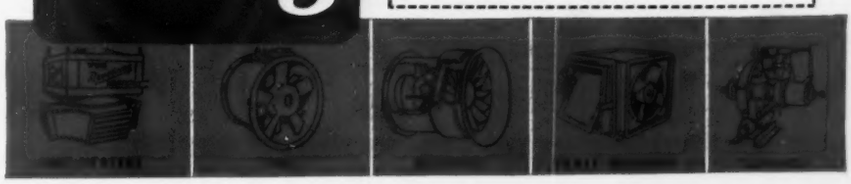

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the boiler room floor. Neither barometric dampers nor motorized stack dampers are used because the blowers of the burners supply 100% of the air for atomization and combustion at pressures so high that variations of combustion chamber pressure do not affect the efficiency of burner operation. Air flow through the boilers during a "burner off" period is insignificant because of small size of the orifices through which the air can enter and the small amount of draft produced by the 28′ stack.

❖

Preferred Utilities issues "Pyroscope" as house Organ

PREFERRED UTILITIES Mfg. Corp., New York, N. Y., recently published its first issue of *Pyroscope*, a new house organ which describes various installations and new products of the company.

For use by the organization's dealers, representatives and friends, the bulletin's name was chosen because it combines heat generation by burning fuel (Pyro) and (scope) "the way we at Preferred view the news about industrial and commercial heating as it may affect our customers."

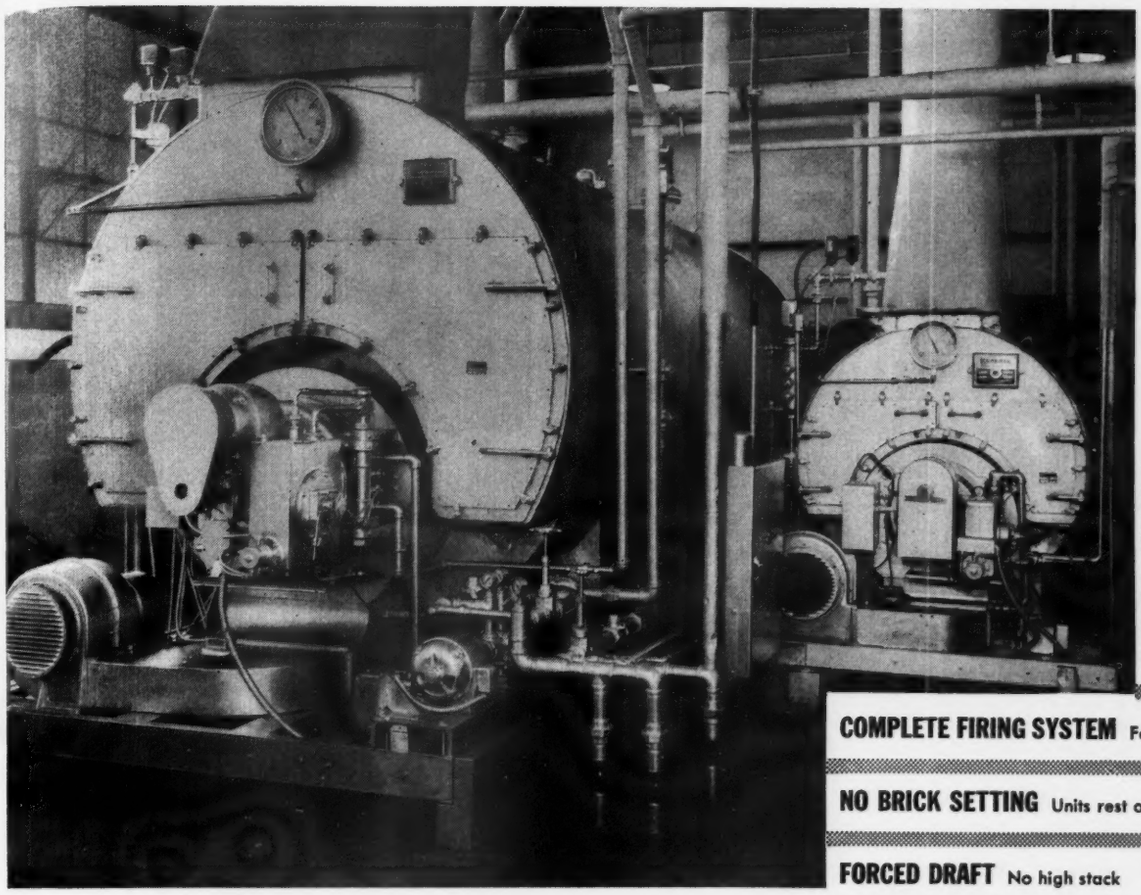
The four page bulletin is done in red, black, and white and utilizes photographs and charts.

❖

Wheelco Instruments Section relocates Chicago Office

NEW AND EXPANDED FACILITIES are provided by the Wheelco Instruments Division of the Barber-Colman Co., Rockford, Ill., in Chicago as the result of a recent relocation of their office in that city.

Located at 6610 N. Sheridan Road, convenient customer parking is available. A complete instrument repair shop is included at the new location along with a stock of normally needed repair parts.



Boiler room, Bendix-Skinner Division of Bendix Aviation, Detroit. Iron Fireman firing equipment installed by Comb & Groves. Giffels & Vallet, Inc., Consulting Engineers.

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Integrated boiler burner units, with Iron Fireman forced draft firing

Iron Fireman-Kewanee boiler-burner units illustrated above are installed in the Bendix-Skinner (Division of Bendix Aviation) boiler plant, Detroit, Michigan. Burners and boilers were engineered together, as one unit. These complete boiler-burner units require only four field connections to put them in service—fuel, water, steam, and electricity. All components, including the entire electrical control system, are assembled at the factory.

Factory Engineered

Such a thoroughly engineered unit has many advantages for the owner beyond its inherent efficiency. Factory responsibility covers the entire job, with no separate contracts for boiler setting, boiler refractory, wiring, oil heating system, automatic control system, or forced draft air supply.

The rated capacity of these boiler-burner units (for either high or low pressure steam) allows an ample margin which can easily carry overloads of 50% or more. In other words, the normal rated load is carried without strain. This means low maintenance costs, and long life for both the firing unit and boiler. Steam pressure is steady, regardless of extreme load fluctuation. Five to one turn down ratio on firing unit offers a wide range for modulating fire control.

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Add firing unit to your present boiler

The Iron Fireman forced draft firing system is a complete package in itself. It can be installed in practically any type of boiler with a minimum of on-the-job assembly.

Send for further information

Mail the coupon for detailed description of the Iron Fireman forced draft firing unit, or get in touch with your Iron Fireman dealer.

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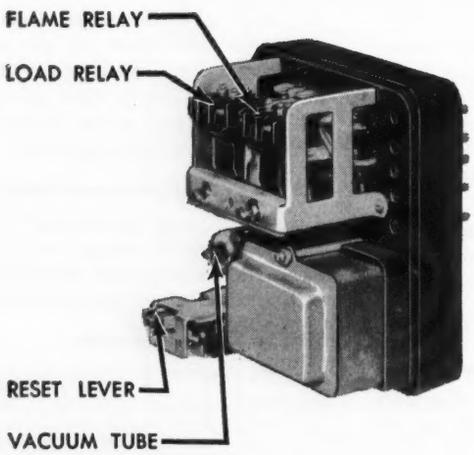

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If flame fails, the RA890 when used alone returns ignition immediately to re-establish the pilot or main flame. If *complete* burner shut-down should be desirable, a R482D switching relay may be used with the RA890 Protectorelay to provide this added sequence.

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supervision guarantees extra safety, extra protection

for all types of commercial burners

relay provides exclusive safe start component check

The RA890 checks itself after every power failure, no matter how short

Absolutely *safe* starts and positive protection against flame or ignition failure in any type of commercial burner—both are *guaranteed* by the new Honeywell RA890 Protectorelay* now in production.

In every case of power interruption—long or short, accidental or intentional—this new electronic flame safeguard checks components automatically when power is reapplied. If the check finds a false signal of flame, the Protectorelay breaks its own internal circuit to keep burner from starting.

Honeywell's exclusive flame rectification circuit makes it impossible for short circuits or leakage to ground to simulate the presence of flame.

The RA890 is ideal for just about any commercial burner application—gas, oil and combination. It works perfectly with automatic or manual starting; with torch, spark, or flaring gas pilot ignition; with intermittent or continuously burning pilot on gas burners, constant or interrupted ignition on oil burners.

The relay is easily disconnected from the mounting base, simplifying installation and service. Other important features of the RA890:

- Responds instantly to flame failure.
- Returns ignition immediately, preventing nuisance shutdowns.
- Protects against ignition failure.

In addition there's a choice of these optional features, available alone or in combination:

- Flame response timing of 0.8 second if immediate ignition return is desirable; 2 to 4 seconds timing available if cut-off service is desired.
- Optional safety switch timing of either 15 seconds or 35 to 55 seconds is available.
- Low voltage alarm contacts on safety switch.

For complete details on the RA890, contact your local Honeywell office. Or write Honeywell, Dept. FH-7-101, Minneapolis 8, Minnesota.

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Oilfired packaged Boiler cuts steam Cost in Hotel

COMMERCIAL & INDUSTRIAL oilburning

HOTEL SYRACUSE, Central New York's largest hostelry, has replaced two of the three coal-burning boilers installed when the hotel was built 31 years ago with an oilfired package steam generator. The new unit, a Foster Wheeler AG 22.5 equipped with a Peabody PK54 oilburner carries the same steam load as the two old units combined, occupies 1/3 the floor space of the former equipment and will amortize rapidly through a substantial saving in cost of steam, operating labor and maintenance, reports James F. Gilday, executive vice-president and manager.

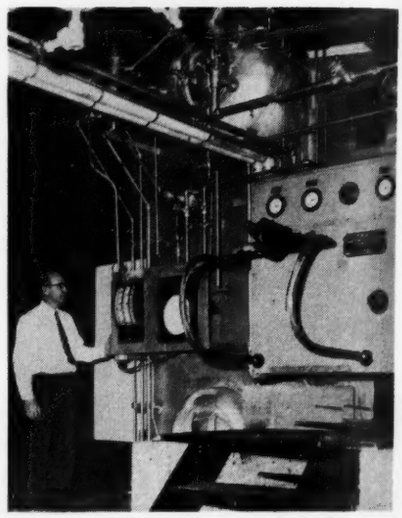
Next to cost reduction, the most important feature of the new installation is the added guest comfort it provides, Gilday explains. The elimination of the coal-burning equipment makes the hotel a cleaner place and puts a welcome end to the annoying early morning clanging of ash cans.

The package steam generator supplies the heating and process steam requirements for the hotel's 600 rooms, four restaurants, three kitchens, a laundry processing 80,000 pieces of linen weekly, 13 stores, the lobby, grand ballroom and meeting rooms, plus the heating and processing needs of an adjacent 50-room hotel with six stores.

The combined considerations of guest comfort and cost reduction prompted the decision to replace the original coal-burning cross drum boilers which generated 308 hp each. The problem was not more steam, but less expensive steam generation. While the original equipment still met peak loads, it produced steam at the uneconomical cost of 90¢ per thousand pounds. So Gilday and Chief Engineer John M. Reschke decided that new and more economical equipment was a "must" to supply the hotel's steam demand of 20,000 pounds of steam per hour.

The decision to replace the original equipment made, Robson & Woese, Inc., consulting engineers, were called in to draw up detailed plans and specifications for oilfired equipment. Four bids were obtained and the Foster Wheeler unit was selected.

The hotel then faced the problem of moving the new equipment into the sub-basement for installation. The original boilers had been installed when the hotel was constructed, and there was now no access large enough to accommodate the movement of the new steam generator into position.

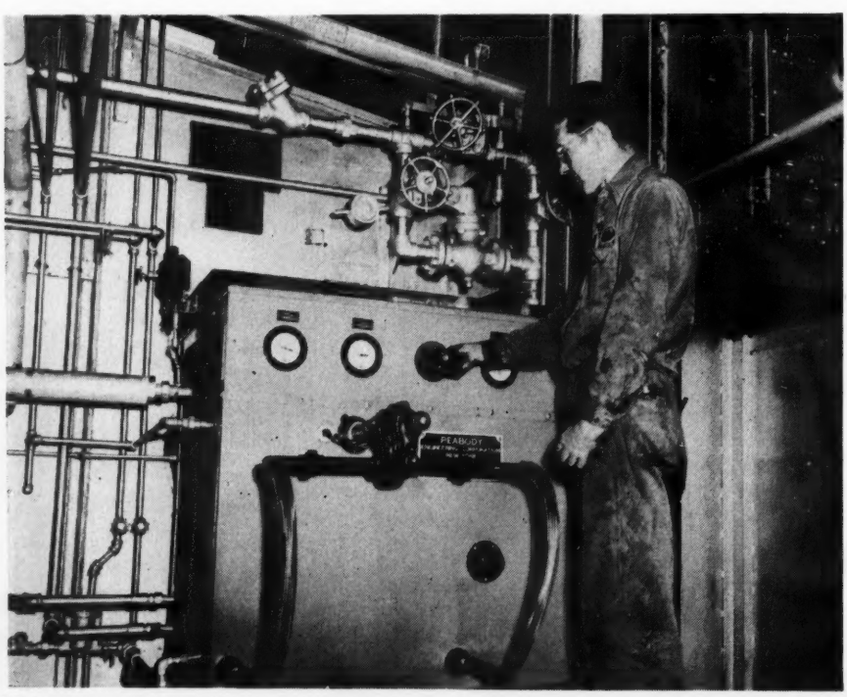


Hotel Syracuse *Chief Engineer, John M. Reschke, makes routine inspection of Foster Wheeler Fackage Steam Generator.*

Since the sub-basement was located beneath the sidewalk bordering the hotel, the solution was found in ripping up a portion of the sidewalk, lowering the steam generator sub-assemblies into the basement and reassembling them on the spot.

The entire project cost $65,000, including the price of the generator plus necessary piping and the costs incurred in ripping up and replacing the sidewalk. However, since the new generator has been in operation, the cost of steam has dropped from 90¢ to 70-72¢ per thousand pounds. The average reduction of 19¢ per thousand means a big saving to Hotel Syracuse which uses approximately 72,000,000 pounds of steam per year.

Using the average saving of 19¢ per thousand pounds the annual saving effected by the switch to the new oilfired generator as compared to the previous equipment is $13,680 per year. The savings realized thus indicate that the boiler will pay out its cost—and all the extraordinary installation costs which unavoidably raised the total investment—in less than five years, on



Maintenance attendant *Walter Wells at the control panel of the Peabody* PK54 *oilburner at Hotel Syracuse.*

the basis of steam costs alone.

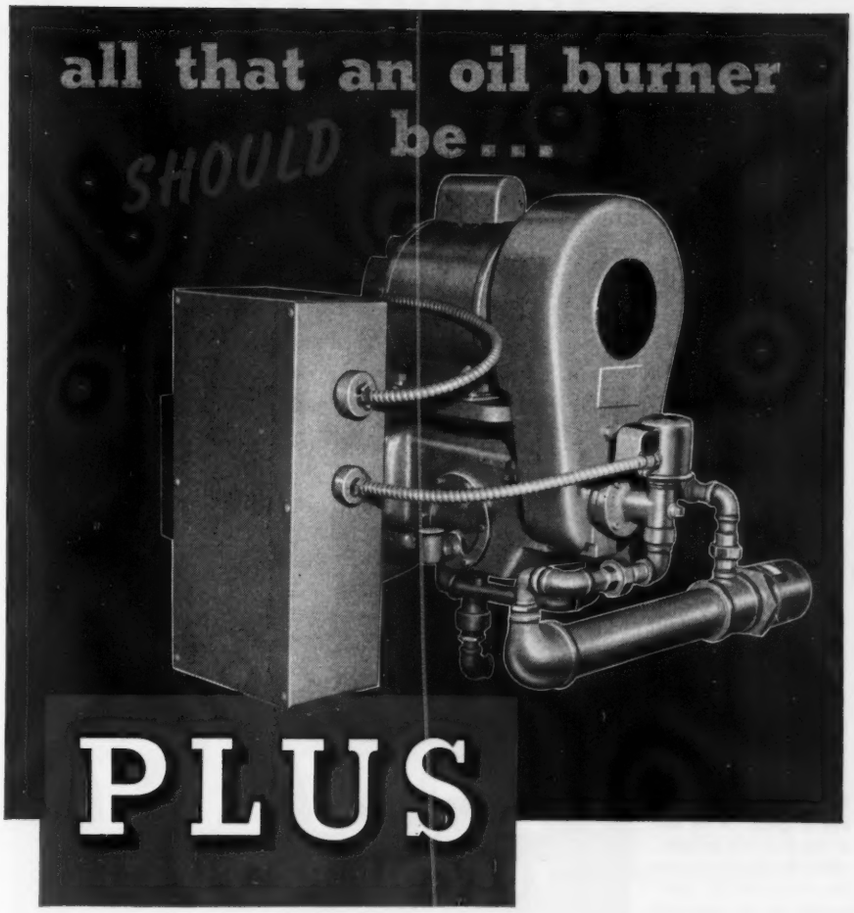
The new boiler is of the watertube type, with a guaranteed capacity of 25,000 pounds of steam per hour. Among features of its design are water cooled furnace construction with low furnace temperatures and reduced furnace maintenance; pressure-tight, heavily insulated welded steel casings to minimize heat loss from radiation.

The generator is equipped with a special steam pressure control unit, the primary purpose of which is to maintain uniformly constant steam pressure at the boiler steam outlet regardless of the extent or rate of steam load demand. This is accomplished by direct operation of a mechanism which proportions the fuel and air in response to the motion of the regulator.

The unit is equipped also with a pressure type peep door giving a full view of the furnace and flame characteristics, the blue glass of which can be moved aside for cleaning and to prevent over-heating when not in actual use. A brick-lined door permits access to the interior for inspection.

The new equipment operates 24 hours a day, and since installation, no difficulties have been encountered. Besides supplying routine requirements during the ebb hours between midnight and 5 A.M., it has met peak demands of 20,000 pounds per hour between 8 and 9 A.M., furnishing the process steam and hot water for the laundry and kitchens, heating and hot water for the rooms. Chief Engineer Reschke sums up the advantages of the new oilfired Foster Wheeler equipment as rapid steaming, low steam costs, negligible maintenance—and a cleaner, cooler boiler room.

The addition of the new steam generator is the latest improvement authorized by the officers of Hotel Syracuse, Inc., in a long range modernization program. The new oilfired generator arrived at an appropriate time. Following the installation, Central New York experienced one of its severest winters in many years. Temperatures frequently dipped below zero, and subzero marks were recorded during four consecutive days. But, thanks to the new heating system, the cold wave meant no reduction in efficiency or guest comfort at Hotel Syracuse.



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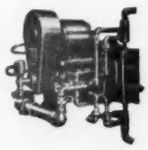

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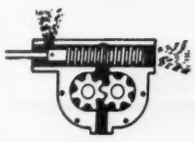
This hinge has the effect of placing the primary pump between the fuel oil tank and the oil heater, permitting higher oil temperatures as required by modern catalytic oils, and eliminating the pump strain in pulling cold oil through the heater.



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COMMERCIAL & INDUSTRIAL oilburning

THE FIRST ANNUAL Commercial-Industrial Oilburning and Equipment Conference took place May 23, 24 and 25 at Kellogg Center, Michigan State College, East Lansing, Mich., in co-operation with the Oil-Heat Institute of America, Inc.

Objective of the conference, at which 85 manufacturer representatives, dealers and others interested in commercial-industrial oilburner installations registered, was to promote a better understanding of the field, the equipment used and required. Prof. C. H. Pesterfield of the Department of Mechanical Engineering, Michigan State College and technical secretary of the Commercial-Industrial Sections of OHI, was in charge of arrangements and opened the program with a discussion of the purposes and objectives of the conference.

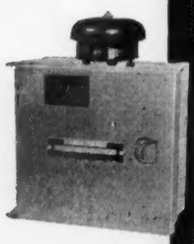
He was followed by R. H. L. Becker, managing director, Oil-Heat Institute of America, who, in his brief remarks, outlined the scope of the program in relation to the over-all activities of the Institute.

The program for the sessions on May 23 was concerned with fueloil. In the morning, R. J. Boyink, Standard Oil Co. of Ohio, spoke of "Oil as a Fuel," wherein he traced the progress of residual fueloils during recent years, pointing out that changing patterns include the declining use of residuals by railroads. Once they were the principal users; now they rank as sixth. At the same time heating with residual oils has climbed in importance.

Boyink observed that residual produced has dropped since the war with the increased consumption being taken care of by imports. He remarked that restriction of imports by law should be discouraged if for no other reason but a desire to avoid regulation or increased government controls. He pointed out that supplies of crude oil at the well in the past 25 years have increased, but less than prices for heavy fueloils paid to refiners. Actually, he said, residual returns to the refiner about $1 less per barrel than the cost of his raw materials.

Boyink concluded with the prediction that in a few years coal probably will lead petroleum in per cent of energy supplied and that it will be confined almost completely to power stations. For example, he said, two atomic energy plants are expected to require about 1% of all coal produced.

Prof. J. W. Donnell, Chemical Engineering Dept., Michigan State College, conducted the session during the afternoon of May 23, speaking on "Sources, Characteristics, Properties



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and refining Processes of oil Fuel." His talk was divided roughly into discussions of the composition of oil and how oil is produced.

J. Verne Resek, Cleaver-Brooks and chairman of the Manufacturers Division of the Commercial-Industrial Sections of OHI, conducted the sessions on May 24, beginning with a morning paper on "Residual Fueloil Today and its Effect on Combustion and Equipment."

Paul F. Schmidt, Allied Oil Co., covered this topic from the standpoint of residual fueloil qualities and fueloil treatments. He described the most important factors in a discussion of treatments for residual fueloils as sludge due to the heavy hydrocarbons and precipitated organic particles in the oil; emulsions between the oil, sludge and water; free water, which remains stratified throughout the mass of liquid.

Residuals, he conceded are harder to burn today due to catalytic refining methods and other reasons so that the refiner must blend distillate oil with them. They then become thinner and solid particles settle out to form sludge and frequently blended oils result in an unstable product.

A general description of a fueloil treatment would show that it contains surface active agents, a solvent and acts as a combustion catalyst. Surface active agents inhibit and disperse organic sludge, emulsification of water and reduce surface tensions; solvent is used as a carrier for the surface active agents; those treatments with a combustion catalyst lower the ignition temperature of soot, permitting it to be burned off at lower temperatures.

Direct benefits possible from additives, Schmidt declared, include prevention of organic precipitation or sludge; preventing coagulation of sludge formed by dispersion; clean oil, tanks, pipelines, strainers and preheaters; reduction of surface tensions. Indirect benefits include burners free of carbon; steadier flame; less or no smoke; less and drier soot; better heat transfer; reduced stack temperature; increased CO_2; less oil consumption.

Schmidt cautioned, though, that fueloil treatments are of no value if the system is inefficiently operated, if fuel-

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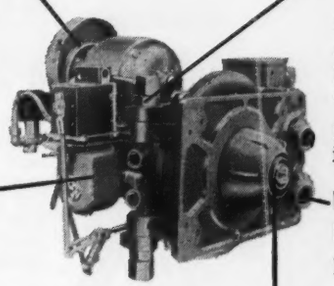

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oil is of poor quality or of wrong grade, if tank troubles stem from other causes than sludge and sediment and if operating personnel are inattentive.

In short, "Fueloil treatments are not cure-alls. No matter how good they may be, they cannot compensate for an inefficient burner and system, as well as poor storage facilities and operation."

Dr. H. R. Heiple, Shell Oil Co., covered "The Chemistry of Combustion of Fueloil," explaining that combustion is a reaction that liberates heat and light and does not always require oxygen. Actually, rapid oxidation is what we call combustion and it is a chain reaction involving perhaps thousands of actions that follow one another when the carbons and hydrogen (hydrocarbons) in fueloil mix with oxygen.

Dr. Heiple went into the physical aspects of combustion, describing the various types of flame and pointed out that luminous flames, like oil flames, emit continuous spectrums which are related to flame temperature. For example, red-orange flames generate lower temperature than yellow or white.

Flame temperature is important, he continued, since the rate of heat transfer is proportional to the fourth power of the flame temperature. Also, ignition temperature—at which a material takes fire and burns—is in the neighborhood of 300° to 400° C. for fueloils. A third definition cited was flash temperature, a mixture of ignition temperature and volatility.

The balance of the talk discussed combustion from the standpoint of efficiency, with the explanation that with No. 5 oil, where complete combustion takes place, the carbon-hydrogen ration of 7.68 makes possible 16.1% CO_2; with No. 6 oil, again with complete combustion, the 8.75 carbon-hydrogen ration, permits a maximum 16.6% CO_2 reading.

Theme of the program then switched to commercial-industrial burner application with a discussion of "Combustion Chamber Design" by R. W. Winskill, Ray Oil Burner Co. He began by pointing out that each oilburner has its own pattern of flame shape and that manufacturers recommend combustion chamber sizes on the basis of flame characteristics of the burner being used and its gph rate.

Water tube boilers and fire tube boilers (except Scotch Marine and water wall units) can release no more than 35,000 Btu for each cu. ft. of furnace volume, he continued. And, the principal functions of refractory materials are reflection, direction and protection—reflection of heat for ignition; protection of metal boiler surfaces and direction of the flame.

Combustion efficiency, Winskill added, depends on time, turbulence and temperature. "The more quickly you can create turbulence and temperature the better the efficiency." Maintenance of temperatures that will insure continuing ignition, he said, is a problem. To overcome it in its firebox boilers, he explained, Ray uses wing walls to maintain higher temperatures at the burner nozzle. Ignition arches serve the same purpose and

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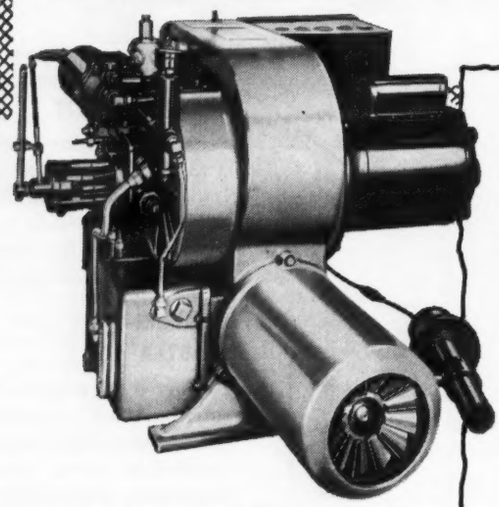

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wind box application provides support ring and cone which heats quickly and reflects back into the air-oil mixture.

Specifically, in Scotch boilers induced draft means longer flame and hence require more refractory around the cone.

Discussing refractory maintenance in firebox boilers, Winskill pointed out that these boilers have been designed primarily for coal and that refractory in these jobs reaches its service point before it reaches a softening point. The boiler limits the size and width of the firebox and the burner limits its shape and also may require special brick. The thermal shock experienced in school jobs, for example, where operation is confined to a ten hour period practically every day for nine months of the year often leads to refractory failure. Winskill stated this can be retarded with sectionally-supported walls or by using plastic firebrick with fewer joints.

Secondary air requirements were described as calling for 33.3 cfm for each gph, produced by 2 sq. ins. of checker work opening for each boiler developed horsepower.

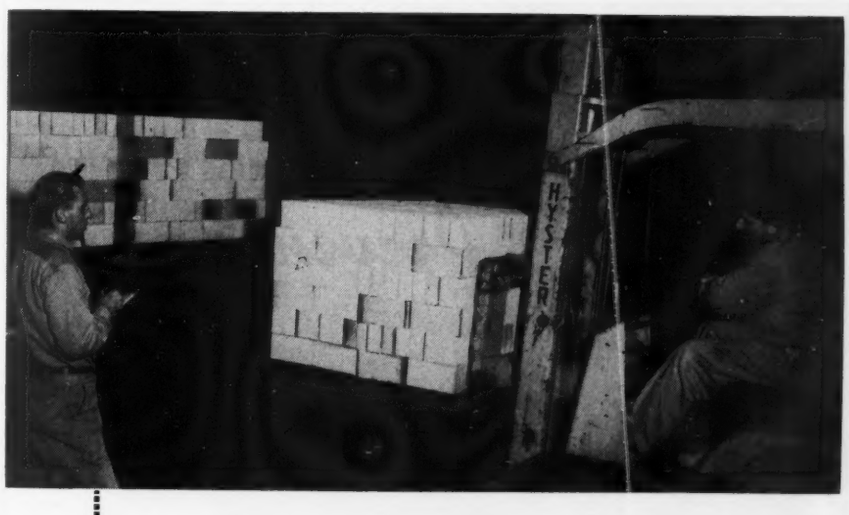
Concluding Winskill observed that while some of the oil available today requires higher firebox temperatures, the three "T's" of combustion efficiency are the same, namely, time, turbulence and temperature.

Richard Dill, National Bureau of Standards, the next speaker talked about "Drafts and Chimneys," outlining some of the development work the Standards Bureau has sponsored. During the War, when chimneys were being made out of as little material as possible and with the least labor, the Bureau experimented with small chimneys. Even 4" rain pipe was tried and while it handled up to 0.5 gph with a pot-type burner, it was not adequate when used with the same burner fired at a 0.75 gph rate.

Dill described some of the chimney problems and how they were solved in such industries as smelting, and pointed out that while the first objective of chimneys was to induce draft, this is not so much of a problem today. Now a principal function of chimneys is to remove noxious gases.

Larry Sibley, Combustion Control Div., was chairman of the last day's sessions. Sibley, who is also chairman of the Accessory Division of OHI's Commercial-Industrial Sections, described the Conference as a meeting of the minds to discuss "some of our common problems, to hear them stated by experts and then hold an open forum for comments." A lot of knowledge exists about commercial-industrial oil-burning, he continued, but there is so little of it in published, available form that a real need exists for a reference manual.

Sibley introduced R. Lisson, Davis Engineering Corp., who had been assigned the topic, "Pumping, Preheating and Piping of Fueloil." He briefly reviewed the changes in heavy fuel-oil caused by the effects of thermal and catalytic refining processes, noting that today's No. 6 fueloil has had so much of the lighter ends removed that it is necessary to blend it with lighter distillates. Even so the oils meet Commercial Standards as to viscosity and pour point, but these do vary and present individual problems on each job.



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Lisson stressed that accurate design is the most important phase of any installation and that each oilburner system should be designed for the specific fueloil to be used rather than to meet general fueloil specifications. Viscosity control is needed for pumping and atomization, he went on, and if viscosity is known at any given temperature, it is possible to design intelligently for the temperature to which the heavy oil is to be preheated.

The next portion of his talk was devoted to descriptions of the various types of preheaters and their applications, including storage heaters. These are of the coil and tank suction types. Lisson explained that their heat absorption factor is small because they rely on convection currents to bring cold oil to the heaters. The suction type has a shell through which oil must pass. The pressure of the oil forces more oil through the heater and higher heat transfer rates are obtained.

All No. 5 or No. 6 oils, in Lisson's opinion, should be equipped with tank preheaters sized for the job. Using a series of slides, Lisson showed samples of preheaters and their installation, explaining the use of hot water or steam as a heating medium and cautioning that thermal losses in pipelines should be kept at a minimum with adequate insulation. Two other heating media—gas and electricity—also were described as were U-tube and straight tube heaters.

When steam heaters are used, Lisson recommended installation of a steam solenoid to shut down steam flow when oil pumping is stopped. Normal bulb temperature controls, he explained, are not sensitive enough for sufficiently fast action.

Non-contaminating type heaters—U-tube heaters with exploratory probe inserted in the boiler water circulating through heater shell—were described. In these the probe transmits an electrical current which is broken if oil leaks into the boiler water. This shuts down the system and instantly reduces oil pressure to zero to stop the leak. These heaters can be connected with alarm or signal circuits.

Steam heaters also can be equipped with probes to monitor the condensate and prevent contamination of boiler water.

Lisson concluded with the reminder again that oil preheating systems should be designed with the full knowledge of requirements the system will have to meet, including such factors as Monday morning cold-starts or period loads in excess of normal.

A look at standards and codes as they affect commercial-industrial oilburners next was offered by Charles H. Burkhardt, Oil-Heat Institute of America. He observed that out of the achievement of higher standards in manufacturing we can reach a state where less codes and regulations will be required. However, he said, there is no sharply defined co-operation in preparation of local codes, which govern operation, as there exists with other standards and Underwriters regulations.

The present regulations with which the industry has been associated in

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their preparation, Burkhardt continued, concern manufacturing and design aimed at safety—Underwriters—and installation as covered by the National Board of Fire Underwriters. These often are supplemented by local codes aimed at operation and performance and here the industry unfortunately does not participate sufficiently.

Smoke pollution control is growing in importance and will become more vital as soon as a proposed Federal study gets under way. This will be backed by a $15 million appropriation, with present indications that the Federal Government will loan or allocate funds to municipalities for local studies.

Right now, Burkhardt urged, everyone in the industry should be volunteering for duty to participate in this smoke pollution control through OHI Chapters or in common with other installers, whether they are competitors or not. The industry can present a united front and contribute constructive advice that will result in fair and equitable regulations. It involves industry co-operation, as well as co-operation with local authorities.

Extreme restrictions, either in effect now or contemplated, generally result from a lack of understanding on the part of local boards, usually because they have not had access to information which can be offered by commercial-industrial burner people. Reaction from local officials, Burkhardt said, has been that if the industry won't offer their help, the officials will make decisions without them.

Many times manufacturers of equipment are penalized through mistakes of incompetent installers or operators, he added, highlighting the need for action at all levels.

The basic program required calls for the design and manufacture of equipment where industry cooperates with Underwriters' Laboratories, installation in conformance with NBFU regulations, operation and performance under codes formulated by local authorities with the benefit of rational suggestions with regard to commercial-industrial equipment, its use and application.

This last can come only from immediate contact by manufacturers and dealers with local authorities to assist in preparing safe and sane rules governing commercial-industrial oilburner installations. Now is the time, Burkhardt concluded, to provide technical knowledge as a basis for decisions rather than allowing local authorities to make them purely on opinion.

Final presentation was made by Carl Swanson, Minneapolis-Honeywell Regulator Co., on "Oilburner Controls." He described the functions of controls as sequencing burner starts in a proper manner and being responsible for the system's operation. In short, controls instigate action, program the sequence and supervise operation.

Swanson enumerated nine phases of control functioning:

1. Provide a means of starting and stopping the burner.

2. Provide a means of checking to insure that regulating devices are used properly and their conditions are satisfactory to the burner's starting.

3. Start the burner in a safe sequence.

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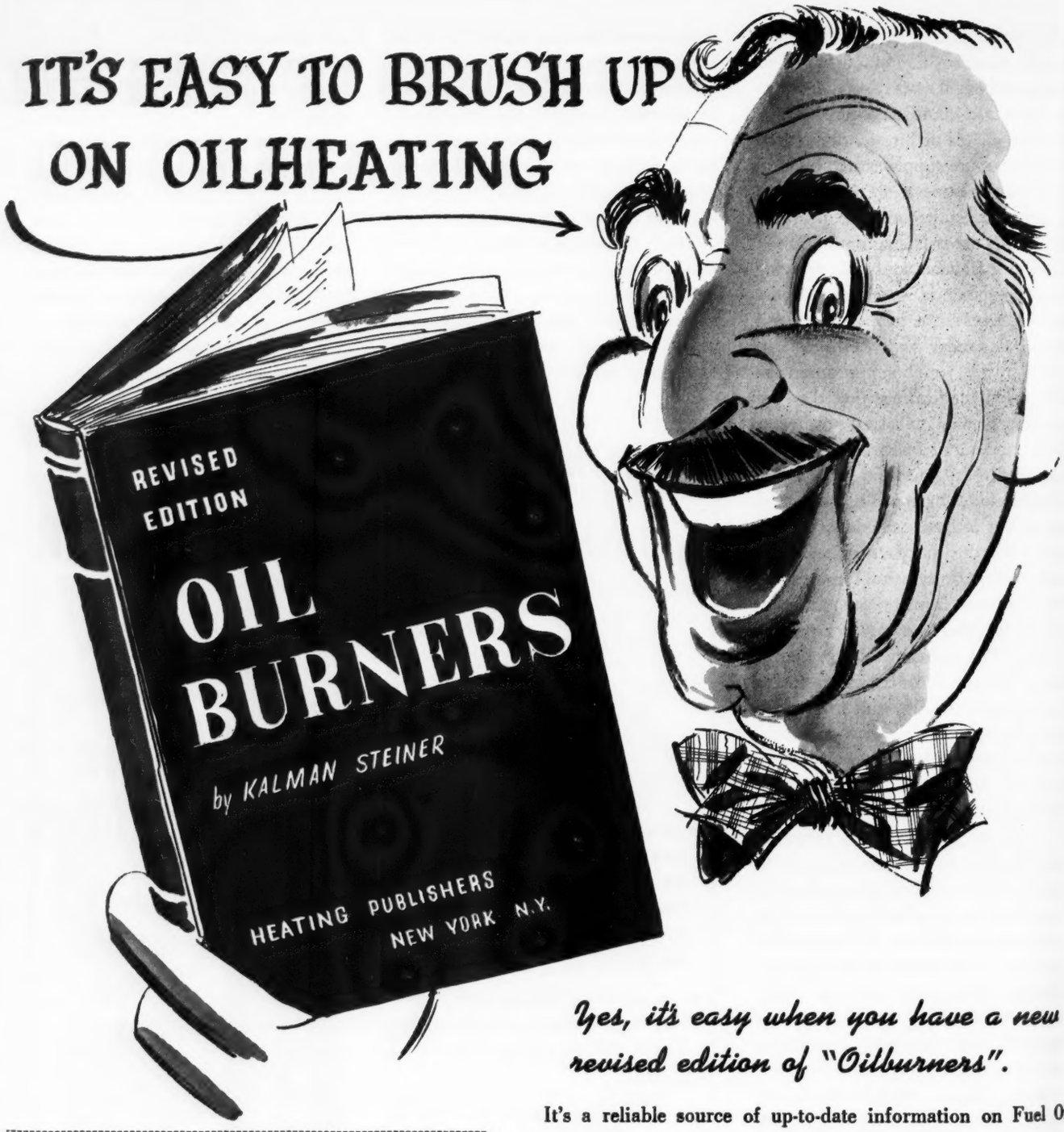

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The burner primary control, Swanson continued, starts the burner in a safe sequence, by taking signals from the other controls. It consists of two parts, one a sequencing device, the other a flame sensing device. Both are tied together and complement each other.

Commercial installations experience extreme temperatures in stacks, Swanson said, so that the bi-metal helix flame sensing device is not good. Also, radiant heat from the flame is not always accurate because it can be affected by reflected temperature from the brick work. Basically, both methods are slow, can fatigue easily and may even fail.

Electronic controls are the answer, Swanson explained, with a photocell to respond to visible light and protected from excessive temperatures. Further, it is difficult for stack switches to distinguish between high, low or no fire, while photocells respond instantly to light from any size flame.

Control requirements for horizontal rotary burners were described as: Delayed opening of fuel valve, timed ignition of gas and spark, pilot supervision at start, main flame supervision on run, guaranteed low fire start, post purge on shut-down and a 2 to 4 second flame response time. Supplementing these Swanson went through a step-by-step sequence from the time the burner motor starts at the beginning of a cycle to the time it stops at the end of a cycle.

Photocells cannot detect gas flames, Swanson pointed out, and for such installations a flame rod is used instead.

He described a pilot turn-down test and hot refractory hold-in check as basic steps to be taken to insure that controls are functioning properly. For the first, the pilot is turned down to the point where it can just be sensed and, if the controls are right, the burner should start safely. The hot refractory check consists in bringing the brick work up to an incandescent state, turning off the oil valve and seeing if the reaction time is within the prescribed 2 to 4 seconds.

On service calls, Swanson advised, examine the control set-up carefully to determine exactly what it consists of. Here an invaluable aid is a wiring diagram for each job. Don't always assume the controls are wrong, he said, check them out first and make sure, despite conditions which might lead to a snap decision that controls are malfunctioning.

A panel of the speakers who had appeared on the program concluded the Conference with a period during which questions were asked from the floor, covering both topics of the talks

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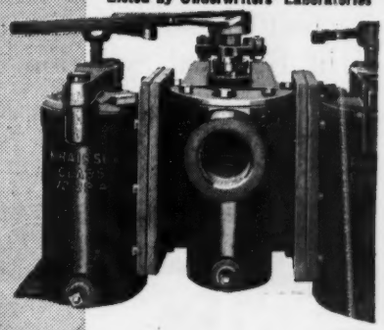

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as well as field problems. Most interest developed on the subject of fueloil additives and methods for efficient burning of residual oils which vary in different localities and sometimes can change from delivery to delivery.

The Conference generally was regarded as a success by all those who participated and it was described as the forerunner of others to be held in other parts of the country. The overall program, including as it did morning and afternoon sessions on three days, luncheons and two dinners, represented a concentrated period of beneficial study and discussion of practical commercial-industrial oilburning problems.

❖

Sargent foresees continued tight Residual Situation

"THE PICTURE of supply for residual fueloil is not bright," Frank J. Sargent, Allied Oil Co., Cleveland, Ohio, recently told a meeting of R.E.A. managers and operators at Denver, Colorado, adding "but one thing should never be forgotten. The primary object of the oil industry is profits—if the incentive is sufficient, the product will be available."

Current factors affecting the residual picture adversely, Sargent listed as follows: "The gasoline octane number race; the highway program; the aluminum industry; and the Neely Amendment."

The octane race, he said, has seen competition become so aggressive "that probably only those refineries can survive that are capable of making high octane gasoline by catalytic cracking and reforming. These are the modern plants capable of producing the lowest yields of residual in favor of the more profitable products."

In addition, he called the group's attention to greatly expanded markets for domestic and light industrial fueloil along with diesel which have increased steadily since 1935, and has seen distillate production rise from 10.4% to 21.3% of the barrel of crude in 1954. "This has been done primarily at the expense of the residual," he said, pointing out that "The reduction in average yield for residual during the same period was from 26.9% in 1935 to 16.4% in 1954."

As a result of the octane race, the number of operating refineries have decreased, although the crude runs have increased to almost 7 million barrels a day. "A continuation of this trend," he emphasized, "means relatively less residual per barrel of crude oil processed."

Returning to the inroads caused by distillate production on residual output, Sargent recalled that "twenty years ago the production of residual totaled almost three times that of distillate. In 1951 for the first time more distillate was produced than residual. Last year distillate production topped that of residual by more than 30%."

The President's highway program, Sargent continued, would undoubtedly increase the demand for asphalt, and as a consequence, residual production would suffer further cutbacks.

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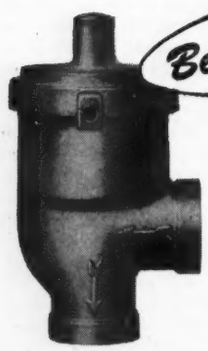

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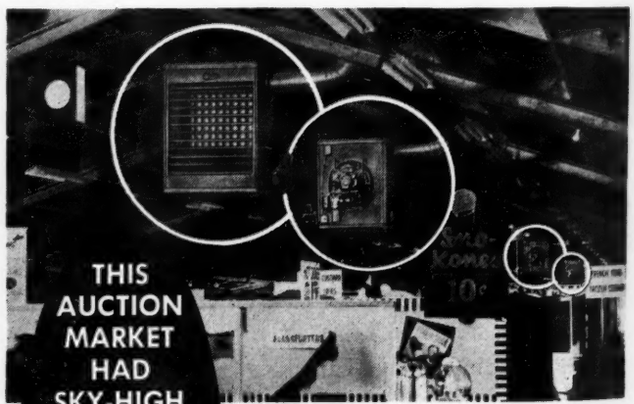

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Concerning the aluminum industry, Sargent reminded the group that this industry was the basic user of metallurgical petroleum coke, and since the industry's future seemed bright indeed, "the incentive to process residual to coke should continue."

Summing up, the Allied specialist stressed the point that "Both asphalt and coke plants can play a vital role in determining the availability of residual oil. A modern refinery with a catalytic cracking unit can reduce the yield of residual to a relatively low figure, but if the same plant is equipped to make asphalts and coke, the residual yield can be reduced to zero."

Since the petroleum industry is basically aimed at profit, he noted that "The refinery realizations for asphalt always have been better than for residual fueloil. Coke, too, shows an improvement in net-back, and is especially attractive since in its manufacture more gasoline and distillate are produced."

Limitations on the import of residual or crude oil, which at the strongest is represented by the Neely amendment to the Reciprocal Trade Extension Bill, further add to the problem of residual supply, Sargent pointed out. Should such a plan be adopted, he continued, "the problem of diminishing residual supply would be aggravated. . . . Limitation of imports to 1954 levels would mean that increased demand would have to be met by domestic production. This over-all demand for residual has shown an appreciable increase since the end of last year, primarily as a result of the strong up-turn in the operations of the steel plants and all industry in general." Consequently, the price of residual would rise, even if some of the demand could be switched to other fuels.

In summation, he reiterated the point that "There will be more processing competition for the residual with relatively less of it available. The demands on it for the manufacture of asphalt and coke will continue with increased intensity. The problem of residual supply could be further aggravated by any limitation of imports of foreign residual brought in to supplement domestic production.

"In other words," he concluded, "residual fueloil will be produced to meet the demand—if the price is right. All factors indicate that this 'right price' is tending to higher and higher levels."

❖

Distribution of Paracoil broadened by Dravo Corp.

THE DRAVO CORP., Pittsburgh, Pa., has announced its appointment as exclusive distributors of Paracoil heat transfer equipment through its Pittsburgh, Cleveland and Detroit offices.

Manufactured by the Davis Engineering Co., Elizabeth, N. J., the Paracoil line includes heat exchangers, steam traps and flow indicators. Dravo has distributed Paracoil equipment through its Philadelphia office for ten years. With the expanded distribution, Dravo now can supply this equipment in southern New Jersey, Pennsylvania, Delaware, Maryland, Virginia, northern West Virginia, Ohio, Indiana, western Kentucky and eastern Michigan.

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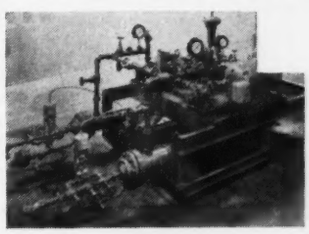

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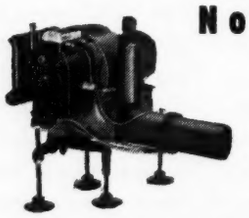

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Biermans issue Guide for Installers and Servicemen

A PUBLICATION, issued recently by Dan and Arthur Bierman, Liquidepth Indicators, Long Island City 1, N. Y., is an "Installer's and Serviceman's Guide." Compiled primarily for New York City oilheating men, the Guide includes the New York City oilburner licensing law, rules for installation of oilburners locally, smoke control laws and a review of the New York City sales tax as it applies to oilburner installations.

More than 2,000 of the booklets have been distributed among oilburner dealers, servicemen and architects in the greater New York area. A new edition now being compiled will incorporate some recent changes in the rules.

The booklet is printed in white, black and yellow, consisting of a 48-page book bound in stiff covers and is pocket-sized in dimensions. Eligible organizations can secure copies from Liquidepth Indicators, 43-22 Tenth St., Long Island City 1, N. Y.

❖

Hays Corporation purchases Metrotype to augment Line

IN AN EFFORT to take a "systems-efficiency approach" to the process of power generation and distribution, The Hays Corporation, Michigan City, Indiana, manufacturers of power plant instrumentation, has purchased outright the Metrotype Corporation, Summit, Illinois, producers of data reduction equipment.

According to Phil Sprague, Jr., Hays' executive vice-president, the move is a logical adjunct to Hays' power plant line and will enable more extensive participation in instrumentation for the process industries.

George Foster will continue as Metrotype president and also becomes a member of the Hays Board of Directors. Edwin M. Corson, Jr., remains as vice president, and manufacturing operations of the two companies will stay separate.

❖

George R. Mellema Co., 620 Plymouth Bldg., Minneapolis, Minn., is one of the sales representatives recently named by The Mammoth Furnace Co., St. Paul. Mellema's territory will be North and South Dakota, Minnesota, Western Wisconsin and half of Upper Michigan.

Other sales reps and their territories named by the company are as follows: *Ayton and Ashton*, 2809 Jefferson Davis Hwy., Arlington 2, Va., covers District of Columbia, Virginia, North and South Carolina.

Heatco Eqpt. Co., 12 N. Third St., Columbus 15, O., in central Ohio. *L. E. Gosling Co.*, 410 S.E. Divn. Place, Portland, Ore., in Oregon, Washington, British Columbia, and Western Idaho.

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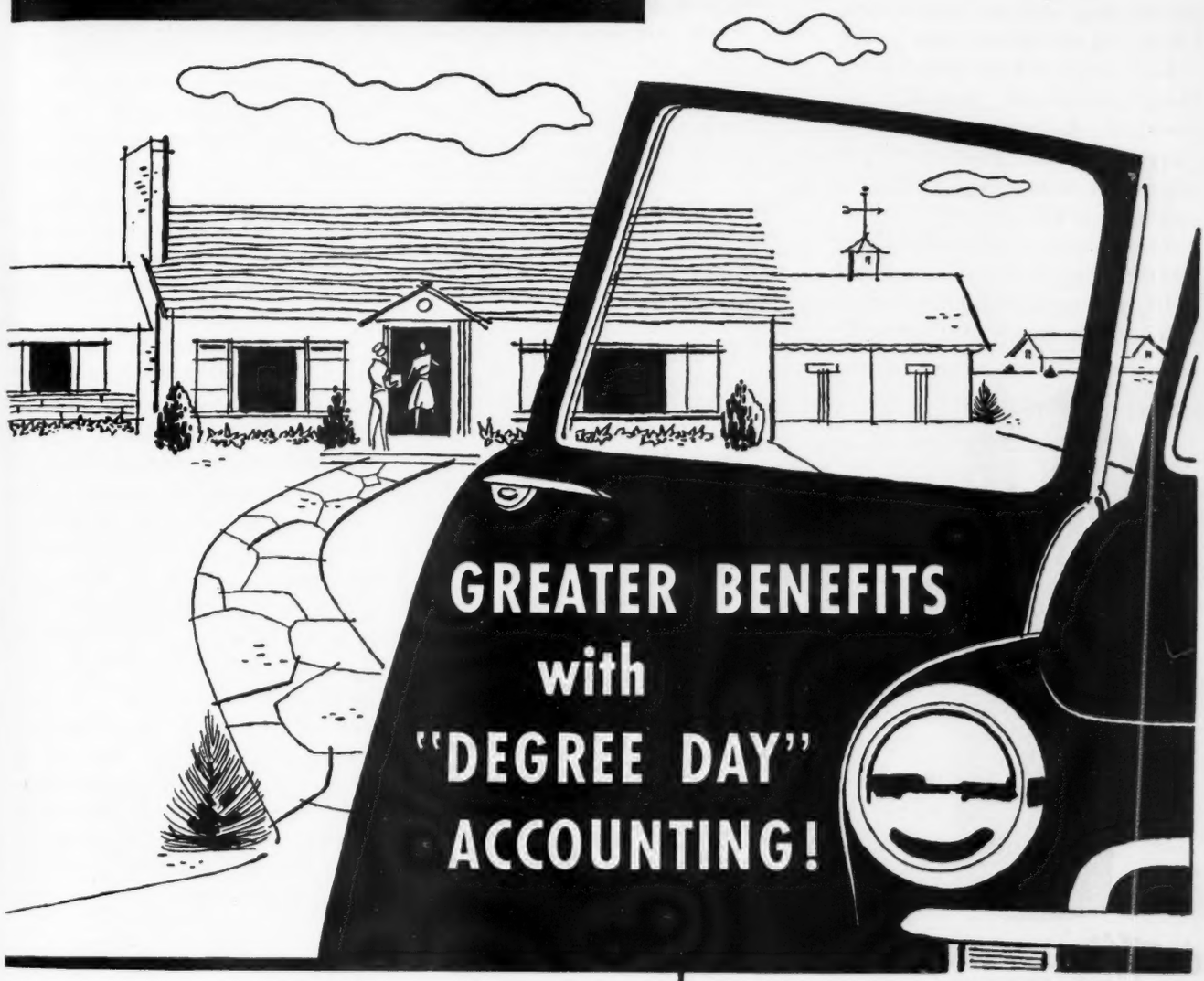

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Maryland Convention

(*Begins on page 82*)

the job, along with the contract stipulations, and the amount made or lost.

Such a series of basic control sheets, Horan pointed out, eventually will provide the dealer with an analysis of his present working situation, and will bring out weaknesses in his pricing or estimating program.

The problem of collections, Horan told the group, should not be neglected. Billing the customer should take place within a few days after the installation has been made. By delaying the billing, he noted, the dealer only makes himself look inefficient. Often, if billing is held over until a month or so has passed, the customer may forget the entire transaction. Usually the customer will pay the current bills first, and if the billing process is postponed, the dealer may find himself waiting even longer for collections.

He added that billing early does not necessarily require early payment, it is only a method of recording that the work is done and payment is due.

On systems and methods, Horan hit the practice by many dealers of failing to take advantage of cash discounts for early payment. He reminded the group that over a number of months, the paying of cash discount bills immediately could add up to a considerable profit. Horan suggested dealers consider setting up a cash "revolving fund" for handling such contingencies. In addition, he proposed that the dealer divide his financial obligations in such a manner that those offering the discounts are paid first.

Concerning delinquent bill collections, Horan felt that a personal call on the telephone was the best solution. "Do not delegate this job to anyone, do it yourself," he continued, and before undertaking the project, "take time to get yourself in the right frame of mind." Instead of being tough with the customer, pointed out that "you" are also being pressed for bills.

As his concluding point, Horan took up the discussion of the future of a small dealer's organization. "A business is too small," he commented, "when it rests on one man and his state of health." Most small organizations, he continued, have few or no individuals who can take over the operation of the business should the employer become sick.

Picking Assistants

The problem of picking an able assistant, Horan said, ordinarily runs with the personnel section. Since the small business is unable to handle such a program, he suggested the use of a number of recruiting methods, chief among which was a "letter" to former buyers calling on those customers to propose someone whom they thought might be capable of filling the position. This type of letter, Horan remarked, had produced 6% returns, and listed among its advantages the flexibility in arranging appointments and the reliability of the source material.

In interviewing the individual who may have to replace him in the future, the dealer must use negative selling, the Perfex manager emphasized. "Tell him it's a tough business," he continued, and recondition your mind for the interview by waiting five minutes before holding the discussion. During

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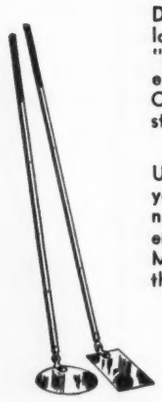

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fueloil & oilheat

the interview, the chief factor that must be remembered by the employer is to make the prospective employee feel that the dealer is generally concerned with employee problems, pitch the tone of the meeting on a serious, "this will affect your future" line.

Although the dealer should use the negative sales method, Horan warned that the oilheating dealer should not apologize for his business. Following the first interviews, he told the group that it was a good idea for the dealer to invite the prospective employee's wife to the office, or visit their home. In this way, he concluded, the dealer can better judge the type of individual he may later have to rely on during an emergency.

Following the two-session school, the convention continued with a series of round-table discussions. Such subjects as Delivery Procedures, Service Contracts, Fueloil Budget Plans, How to Reduce Service Costs; Equipment Sales, Truck Operations, and Credits and Collections were considered.

A general forum was held, which reviewed the various topics reviewed at the "round" tables. In handling delinquent accounts, the OHA members at that particular table felt that the first step was a mailed warning, then removal from automatic delivery, and finally a warning that a refill was due, and that since the customer was now off automatic delivery a payment would be needed if he wished to keep his burner running.

It was emphasized, however, that effort should be made by the fueloil company to find out if there might be some extenuating circumstances which prevented prompt payment, and if so, to continue doing business with the customer. In establishing a credit customer, the heating oil company should explain its policy with regard to payments at the time the contract is opened, and it was stressed that the three basic steps along this line should be: 1. Speed and checking of account; 2. Letting the customer know what the terms are; and 3. Warning the customer when he fails to live up to those terms.

Equipment Sales

The equipment sales discussion reached the conclusion that there was considerable need for oilheating dealers to become acquainted with the many building contractors. It was emphasized particularly that the dealer should do a quality job of installing and selling, "Tell the customer that as an oilheating dealer you are a bona-fide member of the profession by placing emphasis on membership in the local oil heat association."

Reduction of service costs, the round table on this problem felt, might be accomplished primarily through education, both of the serviceman and the customer. To cut down on the fall start-up problem, the group suggested the use of red postal cards telling the customer how to check the more simple causes for oilburner failures. Incentive plans also were advocated, with the serviceman receiving periodic bonuses as he lowered his number of repeat calls.

The convention concluded with a cocktail party, banquet and dinner dance. Attendance ran at about 150 to 200 for the entire meeting.

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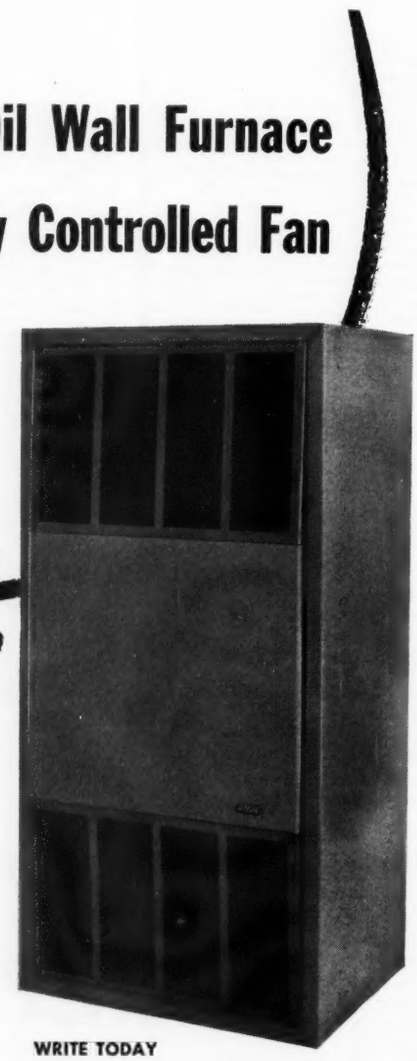

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Heat even if electricity fails – unit can be operated by hand during power failure.

Economical operation – unit burns low cost furnace oil and specially designed combustion chamber has very high efficiency.

Full on, full off operation – with electric ignition and thermostat control.

Big heat output – 65,000 BTU per hour.

Quiet operation – no "blow torch roar."

No radio or TV interference – no high voltage spark.

Attractive finish – neutral hammertone baked enamel.

Listed by Underwriters' Laboratories

WRITE TODAY

for literature, prices and Dealer Franchise Plan.

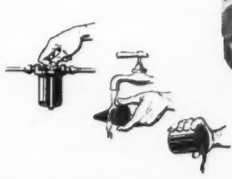
Warehouse stocks in key cities Coast to Coast.

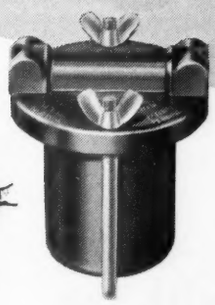
H.C. Little Burner Company, Inc.

San Rafael, Calif.

SURE WAY
TO CLINCH
SPACE HEATER
SALES

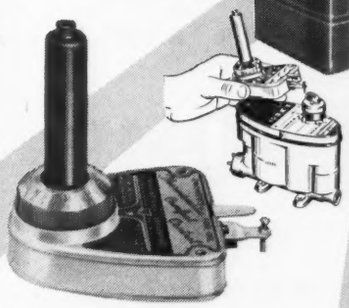
SELL *automatic comfort and efficiency*





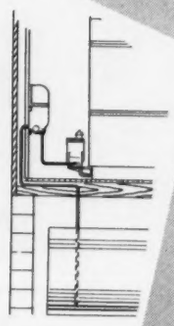
AUTOMATIC OIL CLEANING EFFICIENCY

Automatically traps dirt and condensation in oil *before* it can reach burner and choke flame. A perfect water trap, too. Lifetime strainer cleans in hot water in three easy steps. A-P Trap-It is a "must" for heaters or furnaces with remote tanks.



AUTOMATIC COMFORT

Model 240 MT-YS Thermomatic Comfort Control assures "round-the-clock" luxury of even, healthful heat. Once set, operates automatically. Installs in only three minutes. Fits most space heaters equipped with an A-P manual control valve.



AUTOMATIC OIL LIFTING EFFICIENCY

Automatically lifts oil from storage tank to burner. Eliminates *all* oil handling in the home. Pumps fuel from outside or basement tank to heater above, as high as 25 feet. There's no worry, no mess, no effort. A-P Oilifter is ideal for central heating systems, too.

Before you close your next space heater sale, be sure to mention this trio of A-P accessories. Each is a specialist in providing your customers the ultimate in automatic comfort and efficiency from oil-burning appliances. Remember...the sure way to clinch space heater sales is to make certain you sell more than a space heater.

Order these fast-selling accessories from your wholesaler or write:

A-P CONTROLS CORPORATION

DEPENDABLE *Controls*

For Air • Gases • Liquids • Refrigerants

2458 N. 32nd Street, MILWAUKEE 45, Wisconsin
COOKSVILLE, Ontario NIJMEGEN, Holland
For Export: 13 E. 40th St., New York 16, N. Y., U.S.A.

Keep payloads moving faster . . . at less cost!

speed liquid handling with the

INGERSOLL-RAND

MOTORPUMP

Pumping costs go down—oil keeps on the move—payloads reach your customers with dependable regularity—when you put Ingersoll-Rand Motorpumps to work.

They're rugged and extra powerful for their compact size and stay on the job far longer without maintenance attention! Installation is easier because no special foundation or alignment is needed—they mount and operate in almost *any* position with equal efficiency.

Sizes from ¼ to 75 hp . . . 5 to 2800 gpm capacities. Straight centrifugal motorpumps as well as self-priming types handle practically all oil moving needs, faster and more profitably. Get the latest Motorpump catalog describing the full line or see your nearest Ingersoll-Rand Oil Equipment Jobber.

9-241A

Ingersoll-Rand

11 Broadway, New York 4, N.Y.

Industry Groups

Activities of local and national industry associations are reported monthly in this department. Secretaries are invited to send reports of their Group's activities to the editor by the 15th.

Appliance Manufacturers elect Hohmeyer to head Oil Division

THE 23RD ANNUAL CONVENTION of the Institute of Appliance Manufacturers was held at the Netherland Plaza hotel in Cincinnati, O., June 6-8. Business sessions were presided over by President F. Donald Hart, Temco, Inc.

Different segments of the appliance industry had special meetings during the week. The Oil Division with Marc Resek, Perfection Industries, Inc., presiding, met Tuesday.

Robert Gray, FUELOIL & OIL HEAT and director of Oilheating Market Reports, spoke on the new oil company activity in promoting oil heat. A. T. Atwill and Lewis Moore, Jr., reported on the development of the educational program.

The proposed service and installation manual was reviewed by W. H. Hohmeyer, Detroit Controls Corp., and D. F. Jones, Duo-Therm Division, discussed Bulletin 31 of NFPA.

Hohmeyer was elected new chairman of the Oil Division and, in addition, was appointed to head a committee to study legislation affecting the use of kerosene space heaters. Named with him to serve on the committee were: Roy Johnson, A-P Controls; Don Jones, Duo-Therm; Neil Cargile, Allen Mfg.; Jess Moore, Coleman and Jim Rasmussen, Perfection Industries.

Officers elected at the convention are as follows: W. Frank Fisher, The Floyd-Wells Co., Div. of the John Wood Co., president; F. H. Guthrie, Newark Stove Co., executive vice president; and S. B. Rymer, Jr., Dixie Prods. Inc., secretary-treasurer.

Vice presidents named to head various activities are Robert H. Taylor, Florence Stove Co., meetings; Walter F. Rogers, Crown Stove Works, membership; and Wendell C. Davis, Cribben & Sexton Co., publications.

NEW from Luxaire®
Counterflow Year 'Round Air Conditioning

It's complete, in one system . . . with Gas or Oil Heating

. . . with *either* the new, Air Condensing or Water-Condensing Cooling.

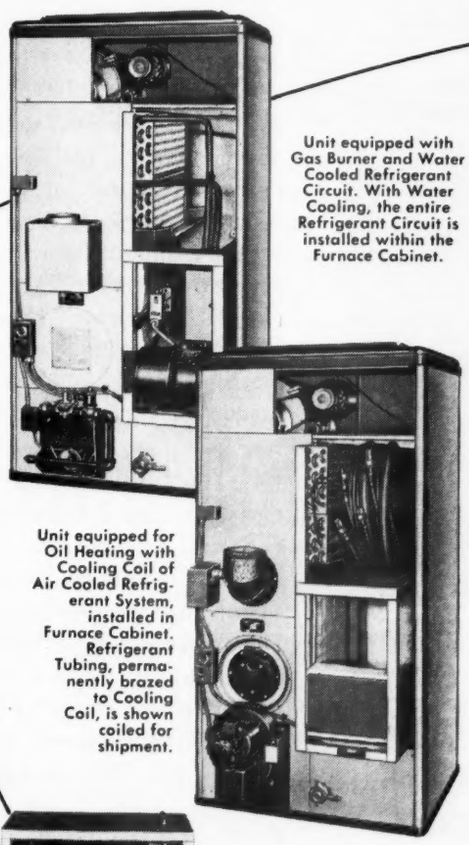
Another Luxaire "step-ahead" advancement . . . a **completely packaged** Counterflow Year 'Round Air Conditioning System . . . the **practical approach** to combination heating and cooling of basementless homes.

Both the cooled and heated air are supplied from the same compact unit. And the Cooling Coil is mounted **vertically** within the furnace cabinet . . . to eliminate all possibility of excessive condensation in the air discharge ducts, which may be buried in or located under the floor.

The Luxaire Counterflow Year 'Round Air Conditioner is available, now, in the 2 ton size with 100,000 B.T.U. Input Gas or Oil heating . . . and either Air or Water Condensing Cooling.

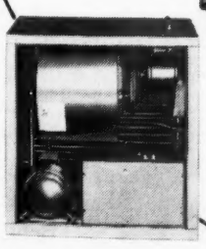
Either Air Cooled or Water Cooled . . . all Luxaire Cooling Systems are charged with Freon and Hermetically Sealed at the Factory. **You do not need to be a refrigeration specialist** to install Luxaire!

Luxaire Counterflow Year 'Round units are **priced right** . . . for 1955 competitive conditions. Your Luxaire Jobber has the profit-telling details.

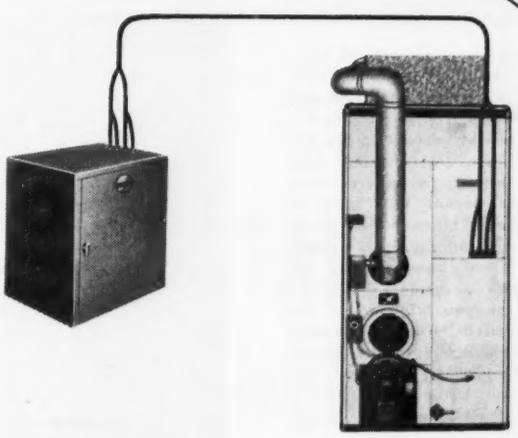


Unit equipped with Gas Burner and Water Cooled Refrigerant Circuit. With Water Cooling, the entire Refrigerant Circuit is installed within the Furnace Cabinet.

Unit equipped for Oil Heating with Cooling Coil of Air Cooled Refrigerant System, installed in Furnace Cabinet. Refrigerant Tubing, permanently brazed to Cooling Coil, is shown coiled for shipment.



At left, Compressor-Condenser Assembly of Air Condensing System. The Refrigerant Tubing is extended from the Cooling Coil and connected to this unit, which is installed in a remote location.



Above, the Air Condensing Unit for installation in out-of-the-way places is shown attached to Cooling Coil, installed in cabinet of Counterflow Year 'Round Unit. Flexible, Copper Refrigerant Lines, available in 30 or 50 foot lengths, permit separation of up to 50 feet. "Herma-Seal" Connectors maintain factory charge and seal of Cooling Circuit . . . eliminate pumping down and recharging on the job.

Twin Cooling Systems Hermetically Sealed at the Factory

Units approved to Burn Gas or Oil

THE Luxaire® C. A. OLSEN MANUFACTURING COMPANY • • ELYRIA, OHIO

HEATING & AIR CONDITIONING UNITS

fueloil & oilheat

Al Atwill earlier had been induced to come out of retirement to study the problems that arose from the adverse publicity space heaters received after several disastrous tenement fires in the East. Atwill's study included visits with fire prevention officials, from which evolved a basis for friendly co-operation between the space heater industry and the fire departments. The committee then was named to continue this liaison work.

More than 60 manufacturers showed equipment at the Convention.

I-B-R releases Rating Book, announces new Short Course

A NEW AND ENLARGED 1955 edition of their Ratings Booklet has been published by the Institute of Boiler and Radiator Manufacturers, New York, N. Y. The new edition contains I-B-R ratings of boilers and baseboards currently being produced.

The 1955 edition has increased its boiler listings to 30, as opposed to 25 in 1954, while the number of baseboard manufacturers listed increased from 26 in 1954 to 38. The new booklet is available from the Institute's headquarters at 608 Fifth Ave., New York 20, N. Y.

At the same time, it was revealed that for the first time in the eastern portion of the nation, a three-day I-B-R Short Course in advanced heating and cooling design and installation methods, would be held at the University of New Hampshire, Durham, on August 9-11.

Co-sponsored by the University and the Institute, the course will cover such subjects as How to Design a Zoned System; Designing a Competitively Priced Forced Hot Water System for Low-Priced Homes; Basic Heat Loss Calculations; Chilled Water Cooling Systems; and other subjects.

Special feature of the course will be a student-faculty clambake and an audience participation skit, "On The Spot," which dramatizes sales techniques.

Open to contractors, wholesalers and others concerned with designing heating systems, the course registration fee is $30.00 per student which includes tuition, lodging and clambake. Additional information may be obtained by writing "Short Course on Hot Water Heating," Extension Service, University of New Hampshire, Durham, N. H. or the Institute's headquarters mentioned above.

OHOTs hold annual Meeting, elect five new Directors

FIVE NEW DIRECTORS were elected recently by the Oil Heat Old Timers at their annual meeting held at the Boat House, Astoria, New York. The new group includes Howard Klerk, Petroleum Heat and Power Co., Inc.; Harold M. Trumpp; Joseph Ziminski, Sid Harvey, Inc.; Norman Munro, Delco Appliance Div., General Motors Corp.; and Jack Shreiber, Petroleum Heat and Power Co., Inc.

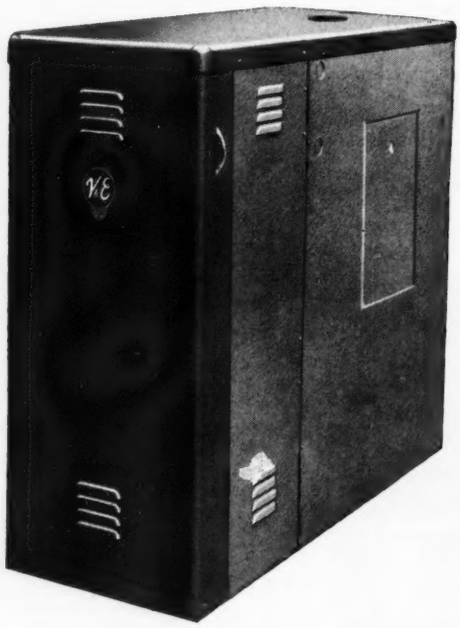
At a later meeting of the board of directors, these officers were named: Arthur Bierman, president; Carl Lieblich, vice president; Howard Klerk, secretary; Gus J. Triolo, treasurer; Joseph Ziminski, recording secretary; and Norman Munro, sergeant-at arms.

On May 20 the group held a dinner dance.

V&E
SCHUYLKILL HAVEN, PA.

WATER TUBE BOILER

Provides Heat and Year Round Hot Water



If you've been shopping around for a boiler burner unit that features QUALITY first, ECONOMY of operation and absolutely trouble free performance—then you owe it to yourself to see this V&E Down Draft, Steel, Water Tube Unit. People who know boilers—leading engineers—install V&E Units in their own homes because they know that they are getting units whose every feature has been thought out and constructed by leaders in the industry. Yes, as you will see in the report on Detailed Performance issued by one of the outstanding test laboratories in the country — you just couldn't buy a better boiler burner unit than a V&E no matter how much you spent.

Get the facts . . . and you'll sell a V&E and you'll be mighty glad you did!

DOWN-DRAFT
Water Tube Boilers

7 CAPACITIES

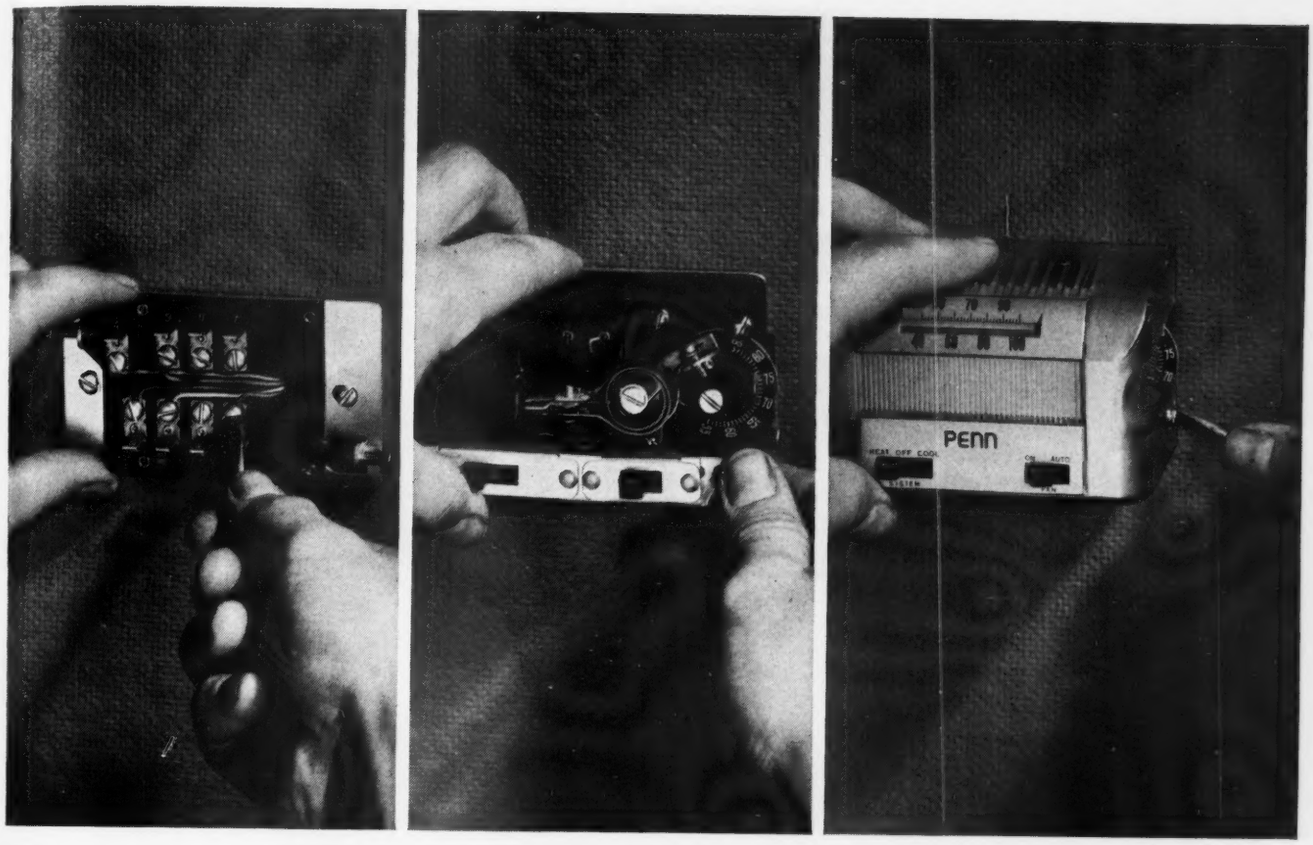
480-2320 sq. ft. stg. H.W. or equiv. steam (largest 55" high x 44" long x 22½" wide)

- FAST HEATING
- NO PULSATION
- HIGH EFFICIENCY
- EASY TO CLEAN
- PRICED RIGHT

V & E PRODUCTS, INC.
SCHUYLKILL HAVEN, PA.

Warehouses:
BALTIMORE • BUFFALO • PHILADELPHIA • SCHUYLKILL HAVEN • LOWELL

Phones:
HO. 7-1444 GAR. 7300 WAYNE 1625 S.H. 122 GLEN 7749



1. Two screws secure mounting base to wall. Then connect wires to terminals.

2. With the cover removed, just push the room thermostat on mounting base.

3. Place cover on thermostat and secure it by tightening two screws . . . one on each end of mounting plate.

3 SIMPLE STEPS TO INSTALL NEW HEATING-COOLING ROOM THERMOSTAT

save time, labor and money

No fuss . . . no critical alignment . . . no hard-to-get-at terminals . . . only the Penn heating-cooling thermostat is so easy to install! But, that's not all. Only Penn gives you "heat anticipation" to hold heating temperature within one-half degree of selected level . . . and, "cold anticipation" to assure closer control of cooling temperature and lowest relative humidity. Be sure the packaged air conditioning you sell and install is equipped with Penn automatic controls.

Penn Controls, Inc., Goshen, Indiana.

PENN

AUTOMATIC CONTROLS

FOR HEATING, REFRIGERATION, AIR CONDITIONING, GAS APPLIANCES, PUMPS, AIR COMPRESSORS, ENGINES

Northern Connecticut promotes Oil Heat; elects new Officers

FORMED ONLY last December the Northern Connecticut Oil Heat Association, Inc., Hartford, recently had its first annual meeting, elected officers and evaluated the work done thus far in combating competition of other fuels.

Herbert Y. Krechevsky, Kay Petroleum Corp., was elected president. Other officers are Richard Whetstone, Pilgrim Oil Co., vice president; George A. Mellen, Mellen, White & Palshaw, treasurer; and Ned Glenney, W. G. Glenney Co., secretary.

The retiring president, Louis P. LeBel, was given a testimonial scroll in recognition of his work in organizing the association.

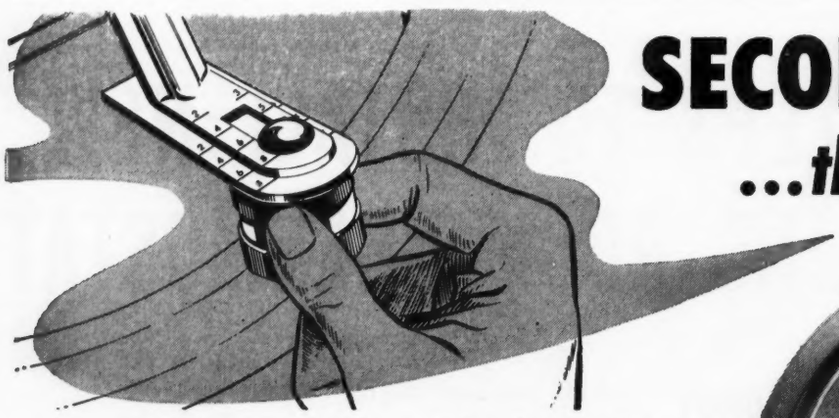
The organization now has approximately 70 members and since the first of the year has engaged in an active advertising and promotion campaign. Newspapers and billboards using the theme: "Save and be safe with Oil Heat—Your best Fuel Buy" have been utilized.

More recently the campaign switched to a greater emphasis on cost benefits. The Association has also participated in home progress shows and is currently using cab-top truck signs.

The F. W. Prelle Co., Hartford, has been handling the advertising for the group. The agency is attempting to get legitimate news items placed on radio and television and in newspapers by having members suggest items.

DOCTOR
A prescription for healtny living . . . clean, safe OIL HEAT
LAWYER
You can judge for yourself the all 'round benefits of OIL HEAT.
MERCHANT
When it comes to BUYS . . . your best fuel is OIL HEAT.
CHIEF
Without reservations . . . your best fuel buy is OIL HEAT.
RICH MAN
The best of everything . . yet watches every dollar and insists on OIL HEAT and saves.
POOR MAN
High fuel bills every month, poor fellow . . . because he didn't insist on OIL HEAT.
BEGGAR MAN
No need to beg for comfortable heat or service when you can insist on OIL HEAT.
THIEF
High fuel costs rob your family budget . . . Insist on economical OIL HEAT.

Featured *in NCOA's cooperative advertising campaign.*



SECONDS!

...that's all it takes

—to set the Steinen Calibrated Draft Regulator

Weight adjustments are calibrated clearly and accurately for quick and easy setting.

To set for any draft, loosen front knurled weight 1 to 2 turns and tighten after matching two lines of desired setting. Rear weight moves with front weight so that true balance is always maintained.

The same method applies for either horizontal or vertical installations. It is not necessary to interchange ANY parts of the Steinen Draft Regulator.

STEINEN DRAFT REGULATORS ARE NOW AVAILABLE IN ALL POPULAR SIZES

ESTABLISHED 1907

STEINEN

WM. STEINEN MFG. CO. 43 Bruen St., Newark 5, N. J.

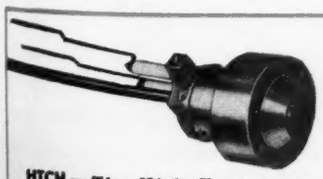
MANUFACTURERS OF ACCESSORIES FOR OIL HEATING AND AIR CONDITIONING

Sign of a man getting ahead in the oil burner business

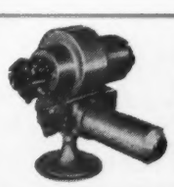
When sales are booming . . . and profits are rolling in . . . it's a pretty sure sign that a businessman is really headed for success. And there's a sure *sign* of success in the oil burner field, too. That's . . . U. S. Oil Burners.

With the fuel-saving High Temperature Combustion Head . . . exclusive Vernier-Flame Control . . . Delayed Oil Valve . . . Instantaneous Fuel Cut Off . . . smooth efficient performance . . . and precision-built quality . . . these burners have given U. S. dealers a decided advantage over competition. What's more, U. S. offers a complete line of quality burners ranging in capacities from 0.50 to 20.00 G.P.H. Interested? Contact your heating wholesaler or write us direct.

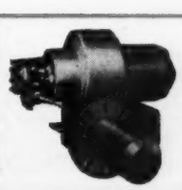
U. S. BURNER DIVISION THE CARLIN COMPANY WETHERSFIELD, CONNECTICUT



HTCH—*The High Temperature Combustion Head makes possible fuel savings up to 36%—a real U. S. selling feature.*



Model 400 S
0.50 to 3.00 G.P.H.



Model 400 AF
0.65 to 1.50 G.P.H.
1.35 to 2.00 G.P.H.

Model 400
0.65 to 4.00 G.P.H.

Send for this fact-filled folder "Things A Man Prizes Most"

BUYING OR BUILDING A NEW HOUSE
Insist on
OIL HEAT
SAFE
OIL HEAT your best fuel buy
NORTHERN CONNECTICUT OIL HEAT ASSOCIATION, INC.
Oil Heat YOUR BEST FUEL BUY!
SAVE AND BE SAFE

The Association has also formed an Oil Man's Credit Bureau through the local Hartford Credit Rating Bureau.

New directors elected are as follows: Louis P. LeBel, W. C. Mason & Co.; Harry Goldfarb, Mercury Oil Co.; James L. McIntyre, Sr., Laurel Oil Co.; Sidney Berson, Berson Bros., Inc.; Lee Wood, L. T. Wood Co.; Vincent D'Atri, Metropolitan Oil Co.; Frank Vonasek, Conn. Refining Co.; and Nicholas Pencheff, Williams Oil Co.

SO MUCH VALUE at SO LITTLE COST!

THE "METROPOLITAN"

A completely packaged* 1955
FUEL OIL TRUCK

Prices range from

$4,078 UP TO $11,890

1000 gallon 1½ ton DODGE — 3300 gallon 4 ton DODGE

The base prices include 2 compartments, full skirting, top shrouding, electric or "Fluid Drive" reel, 125 feet of 1¼" hose. Rear or side installed equipment and variations in basic specifications available in all sizes on different make chassis. Other tank sizes and prices on request. Consideration given to all state and local requirements.

TRADES ACCEPTED and TERMS ARRANGED

*Includes chassis, tank, pumping and metering equipment

All prices above include Fed. Tax. Tank prices on other make chassis and trailer prices with specifications on request.

Send for FREE CATALOG FON

Decker Brothers

300 LINCOLN AVE. HAWTHORNE, N. J.

HAwthorne 7-2100 - 01 - 02 -

NOJC calls on FHA, VA to require seven-inch Flue

TWO SPECIFIC RECOMMENDATIONS concerning flue sizes were made to the Federal Government's various housing administrations by the Fuels Policy Committee of the National Oil Jobbers Council, at their spring meeting in St. Louis, Mo. on May 20-21.

Under the direction of Tom Gemlo, the Committee's recommendations may be summarized as follows:

1. That the NOJC counsel be instructed to confer with the FHA, VA and other home-financing units in an effort to prevail upon them to amend their building codes through requiring an all-purpose chimney, and thus not limiting the new home to the type of fuel used.

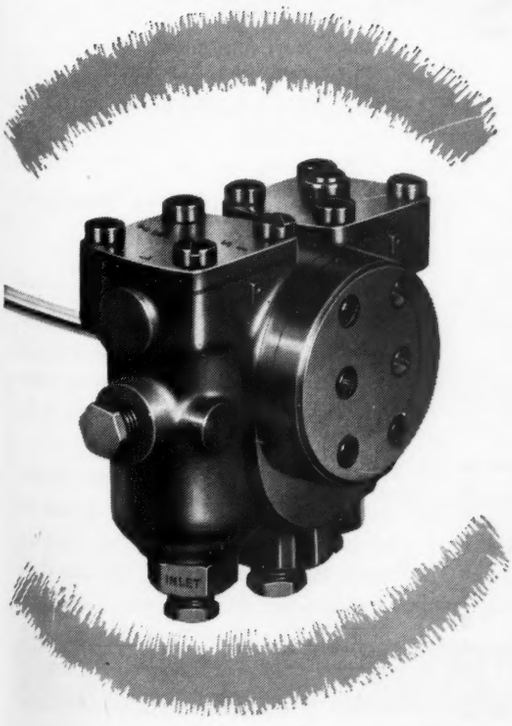
2. Further that the required chimney be at least a seven inch flue to withstand a minimum temperature of 1,000° F., and that an NOJC representative contact the American Petroleum Institute in an effort to enlist their aid and support for the program.

Other recommendations of the committee not concerning flues included the suggestion that all fueloil distributors make burner service available to their customers, and that the NOJC endorse immediate action by the various state or regional member groups to file application for membership in the Oil Heat Institute.

It was also announced at the meeting, that the group had set up a new Washington office with an executive secretary, Charles Chapman, in charge. The other unit, under the direction of Otis Ellis, general counsel, continues.

"She says that someone told her the best way to warm a house is to have a painter give it two coats"

Here's another way, Old Timer!



Millions of Americans agree that the best way to warm a house is with oil heat—and thousands of families are joining this group every month.

Our opinion here at WEBSTER is obvious, for WEBSTER fuel-units and ignition transformers have played a big part in building the reputation for reliability, which is one of the prized assets of the oil heating industry.

Find out how easily you can eliminate customer complaints and unnecessary "bounce calls" by standardizing on WEBSTER fuel-units and ignition transformers on all new installations and replacements.

Write today, *for the WEBSTER catalog which includes complete replacement data on nearly every fuel-unit and transformer made in the last twelve years.*

WEBSTER ELECTRIC
RACINE WISCONSIN

MANUFACTURERS OF FUEL-UNITS, IGNITION TRANSFORMERS AND DELAYTROLS

Planning *the South Carolina Oil Jobbers' management training institute are, left to right, F. E. McEachern, University's extension division; T. H. Albenesius, Jr., Coastal Terminals, Inc., Charleston, S. C.; W. L. Heinz, Central Oil Co., Columbia, S. C. and secretary of the Association; L. T. White, manager of business research, Cities Service Petroleum, Inc., New York; Fred Herlihy, Jr., Power Oil Co., Orangeburg, S. C., chairman of the education committee; and W. G. Willard, Jr., Willard Oil Co., Spartanburg, S. C., vice president of the association.*

NEW LOW PRICES!
GILBARCO OFFERS NEW OPPORTUNITIES FOR DEALERS

The famous line of Gilbarco heating equipment is now available at prices that meet and *beat* competition. This new price policy is made possible by increased production facilities and a new decentralized distribution system – which will allow the appointment of new dealers. Gilbarco offers this opportunity without any reduction in dealer profit margins and with no sacrifice of its traditionally high engineering standards.

For full information regarding this opportunity use the coupon below.

SEND THIS COUPON—ACT NOW!

Gilbert & Barker Mfg. Company
West Springfield, Mass.

Dear Sirs: Send me all the facts today on your oil burner Dealer Plan.

Name_____

Address_____
(STREET)

City_____ **State**_____

South Carolina OJA sponsors management training School

DISCUSSION of a variety of questions of basic concern to the petroleum industry played an important part in the management training institute sponsored recently by the South Carolina Oil Jobbers Association at the University of South Carolina, Columbia, S. C.

Exclusively for distributors, more than half of the membership of the state association attended the school, which also featured special group sessions on such problems as forecasting and appraising results, budgeting finances, evaluating employees, advertising, determining a need for a retail outlet, construction, source and development of dealers, and management assistance to dealers.

In addition to the special subjects, 14 talks were presented on a variety of topics ranging from estate planning to management and labor relations.

IOMA Convention in Boston stresses Public Relations

PUBLIC RELATION PROBLEMS, small and large, were stressed at the 31st annual convention of the Independent Oil Men's Association of New England, Boston. The meeting was held at the Hotel Statler, June 14.

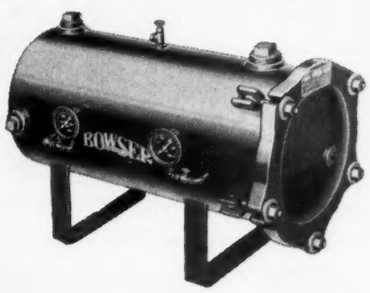
James H. Pipkin, vice president, The Texas Co., spoke to the group at the luncheon. His topic was "Our Equation for Prosperity." At the dinner Hanson W. Baldwin, military editor of *The New York Times*, gave a speech entitled, "Where do we go from here."

THE PROVED WAY TO INCREASE SALES AND PROFITS

FILTER YOUR PRODUCT AND SELL MORE OIL WITH . . .

BOWSER
Fuel Oil Filters

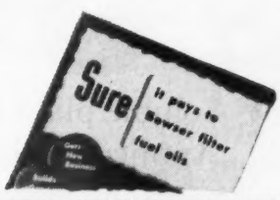
Because clean oil improves burner performance, customers PREFER Bowser-filtered oil. You can keep satisfied customers, close contracts quicker, get NEW BUSINESS and reduce service costs—and you can do it at a cost per gallon that is practically nil!



Bowser Fuel Oil Filters are available for truck mounting (above) or for bulk plant installation (right). Replaceable filter cartridges remove micronically small particles and condensed moisture.

HERE'S PROOF!

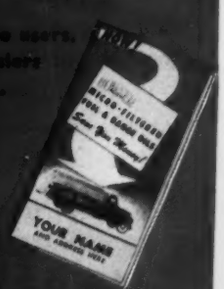
Read the statements by typical dealers who increased sales and profits with Bowser Filters . . .



WRITE FOR "BULLETIN 839." IT TELLS HOW OTHERS DO IT.

MERCHANDISING FOLDER

This folder, available to users, has helped many dealers sell more fuel oil . . .



BOWSER ESTABLISHED 1885

BOWSER, INC., 1330 CREIGHTON AVE., FORT WAYNE 2, INDIANA

MAKERS OF TIME-PROVED XACTO METERS

The PENN Package

Winter-Summer comfort for your customers . . . and a worthwhile profit for you

Most Advanced Type . . . Forced Water Central Heating and Cooling System

Pioneered by Penn, this modern combination . . . Penn Air-rad, Penn Boiler and Penn Chiller . . . offers top heating-cooling efficiency and value for new homes, motels, and all types of commercial and public buildings.

Don't delay . . . get the facts today about the Penn heating-cooling package. You'll find it easy and profitable to install.

For complete information, write to Dept. FO-3

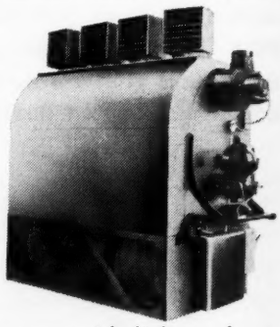
PENN BOILER & BURNER MFG. CORP.
Lancaster, Pennsylvania

New Products

Each New Products item has an identifying number. If you want more information on any equipment described here send the coupon on page 137 to FUELOIL & OIL HEAT, *2 West 45th St., New York 36, N. Y., and identify the product by circling its number on the coupon.*

Mammoth introduces Commercial-Aire Line of direct-fired space Heaters

HEAVY-DUTY UNITS in Mammoth Furnace's line of Commercial-Aire direct-fired space heaters range in capacity from 300,000 to 2,000,000 Btu bonnet output. Each unit is completely assembled, wired and fire-tested before shipment. Electronic flame controls and automatic, unattended and efficient heating make "Automation" available to the commercial-industrial user.



Commercial-Aire is made for use with light or heavy oil, modulating or combination burners. The units can be supplied with blower compartment separate for airconditioning installations with face and by-pass dampers in the standard FD series. Floor, suspended horizontal, and suspended inverted installations can be made with standard units with no major modifications. All mechanical parts are accessible without major disassembly.

Made by: The Mammoth Furnace Co., 509 Vandalia St., St. Paul 4, Minn.

Circle E1 on coupon, page 137

Soluble plant Fertilizer for dealer Application is developed by Du Pont

DU PONT HAS BROUGHT OUT a soluble plant food to be used by fueloil dealers interested in using idle trucks to spray liquid fertilizer during the summer months. The food contains nitrogen, phosphorus and potash in this proportion: 19-22-16.

Readily soluble in water it can be applied at any time. Contains Du Pont urea and trace elements.

Made by: E. I. Du Pont de Nemours & Co., Wilmington, Del.

Circle E2 on coupon, page 137

When Dependability counts . . .

Install

TACO

The Power-Packed Circulator You Can Rely On!

Manufactured under rigid quality control—with every feature to meet the toughest specifications.

See Your Wholesaler or Write

TACO HEATERS, INCORPORATED

1160 Cranston Street, Cranston 9, R. I.

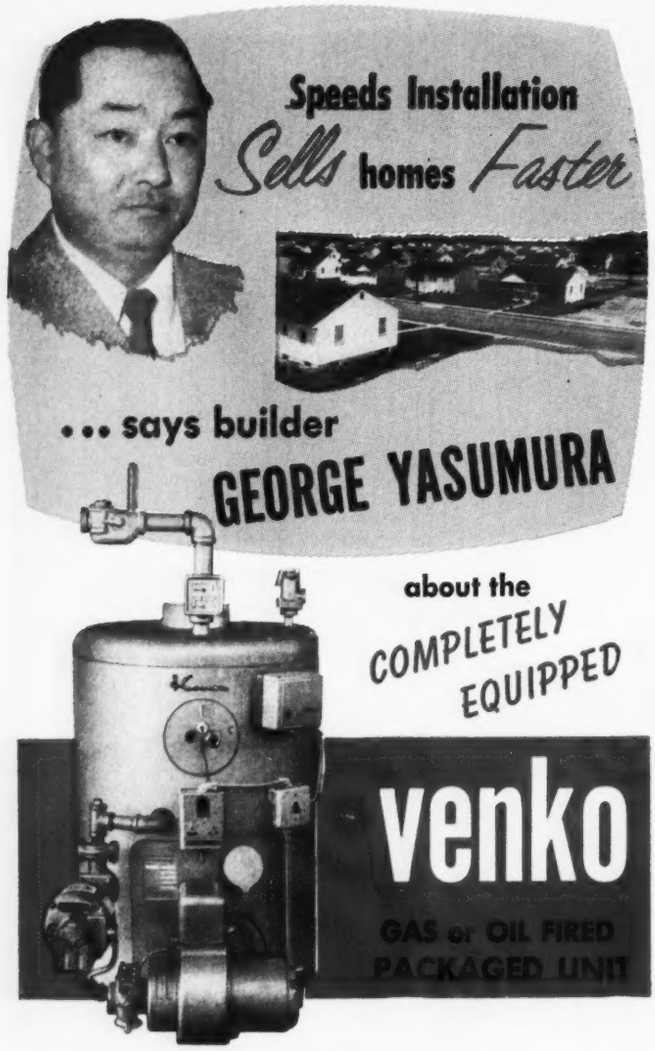
CORPORATE OFFICE
342 Madison Avenue
New York 17, New York

IN CANADA
Taco Heaters of Canada, Ltd.
4 Gilead Place, Toronto 2

Better Heating

Taco

Better With TACO



After installing 150 Venko Packaged Units in his Lakewood, New Jersey Hickory Manor development, Builder George Yasumura is so enthusiastic about the increased sales appeal created by Venko he has ordered 100 more — and says he plans "to use it exclusively" in all future building! Dramatic proof of Venko's superiority!

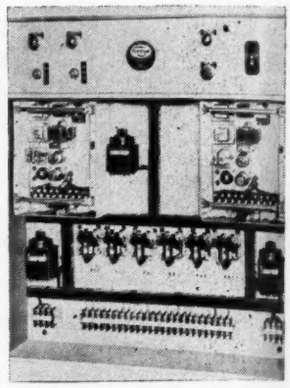
PLENTY OF HEAT AND HOT WATER
FUEL-SAVER — economical to operate
FULLY WIRED AND ASSEMBLED (as illustrated)
FITS THROUGH A 30 INCH DOOR
in easy one-man handling crate
BUILT TO FIT THE MODERN HOME

NATIONALLY ADVERTISED

WATERFILM BOILERS, INC.
a division of L. O. KOVEN & BRO., INC.
154 Ogden Ave., Jersey City 7, N. J.
Plants: Jersey City, N. J. • Dover, N. J. • Trenton, N. J.

Fireye System for multiple burner Boilers and smoke density Indicator

FIREYE integrated control system, designed for safe light-up and operation of multiple burner boilers, consists of a prewired and tested control cabinet assembly, plus all necessary controls, timers, valves and accessories. It provides starting and operating flame failure protection for one, two, three or four burners, gas, oil or combination, manually or semi-automatically ignited. Flame failure protection is provided for each by two Type 48PT1 scanners. The system does not allow the main fuel valve to open until pilot flame is established. It makes mandatory a purge time to produce four air changes in the boiler. Described in catalog CC-31.



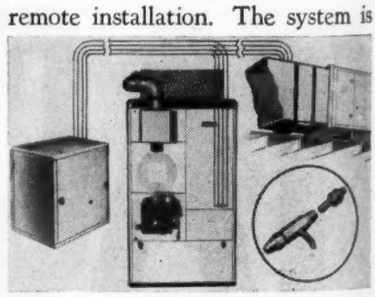
Smoke density indicator system FE-3 consists of a light source, photo-electric scanner and smoke density indicator. Light source and scanner installed on the stack or breeching measure and indicate directly in terms of smoke density and Ringelmann number. An alarm relay provides for the operation of an external alarm at any preset value of smoke density. Any of three Series 55 recorders may be used with the system. Described in Bulletin CM-32.

Made by: Combustion Control Div., Electronics Corp. of America, 718 Beacon St., Boston 15, Mass.

Circle E3 on coupon, page 137

Air-cooled Condensers a Feature of Luxaire Line of cooling Units

LUXAIRE cooling systems in 2 and 3 ton capacities have air-cooled condensers for remote installation. The system is charged and hermetically sealed at the factory, with a Herma-Seal coupling making it possible to maintain original pressure and retain a perfect seal when two parts of the "split" system are connected.

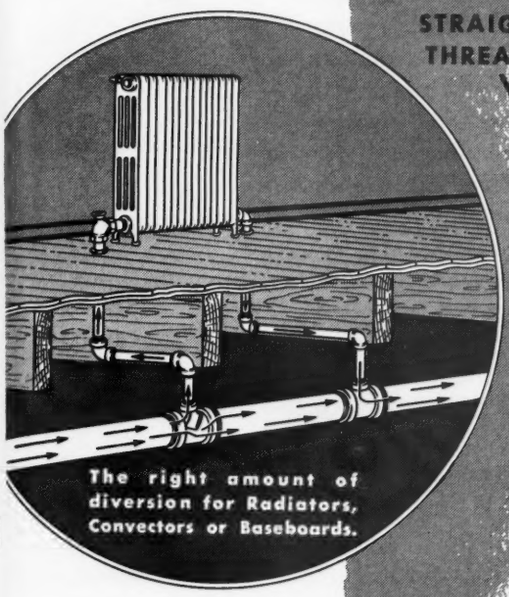


Cooling coil is installed in a centrally-located Luxaire year-'round airconditioner, in a duct or connected to any forced air furnace; air-cooled condenser and compressor make up a separate assembly in its own cabinet and installed remotely. Like other Luxaire cooling circuits, the air-remote units utilize two compressors, one of which operates more frequently to maintain constant cooling and dehumidification, while the second is called into operation only when additional cooling is needed.

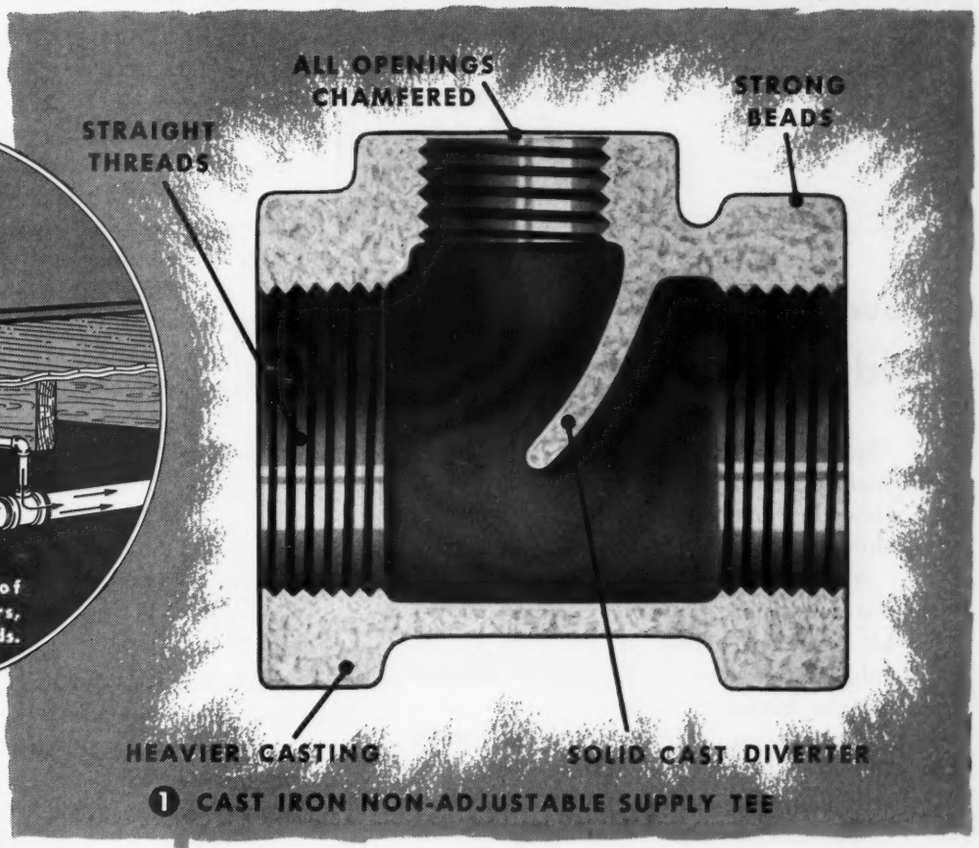
Made by: The C. A. Olsen Mfg. Co., Elyria, Ohio.

Circle E4 on coupon, page 137

LOW COST FORCED HOT WATER HEAT!



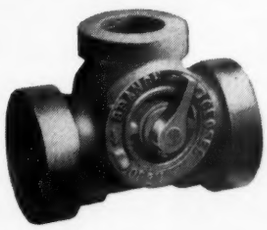
The right amount of diversion for Radiators, Convectors or Baseboards.



❶ CAST IRON NON-ADJUSTABLE SUPPLY TEE

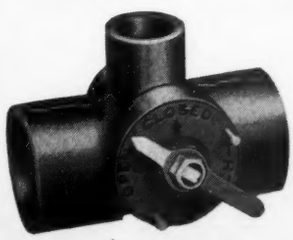
❷ **BRONZE NON-ADJUSTABLE SUPPLY TEES**

Solder fittings for one-pipe systems using copper pipe. They are accurately made in a complete range of needed sizes.



❸ **CAST-IRON ADJUSTABLE SUPPLY TEES**

for iron pipe installations. Easy to adjust, permit accurate control of flow to radiators. Simplify balancing on one-pipe systems. Complete range of sizes.



❹ **BRONZE ADJUSTABLE SUPPLY TEES** for copper pipe installations have solder connections and the same adjustable feature as the cast iron tees. Permit accurate diversion to each radiator or convector.

THRUSH

One Pipe SUPPLY TEES

Thrush Supply Tees are low in cost but high in quality and workmanship. Precision machining assures straight, uniform piping. The cast iron tee shown above is scientifically designed to divert the right amount of water to the radiator in a one-pipe system. The diverter is an integral part of the casting.

Adjustable Supply Tees shown below at left permit perfect balancing of all radiators in a one-pipe system. The handy lever can be set easily to control the output of each radiator. The flow of water through the main is increased, not throttled.

Thrush Tees save time and labor . . . and assure a better job for your customer. See your wholesaler today or write Department C-7 for more information.

H. A. THRUSH & COMPANY
PERU, INDIANA

CONVERSION JOB *Tips*

How Lightweight Refractories Reduce Combustion Noise

"Sure, I know my fuel bills will be low with oil, but I understand that every time the burner goes on it sounds like a thunder storm."

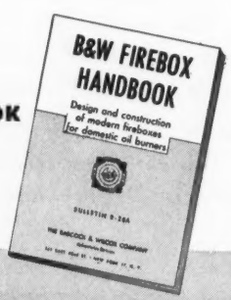
You've probably run up against this comment more than once—and it has to be answered before an oil-fired job is sold—and a new oil account is entered on the books.

Lightweight refractories won't solve this problem all by themselves—but they will help. Here's how:

The answer lies in the same porous structure which enables B&W Insulating Firebrick to cut fuel bills as much as 25% because they store and conduct less heat. In addition to keeping the heat inside the firebox, these tiny air pockets of B&W Insulating Firebrick absorb combustion noise in the same way the acoustic perforated ceiling tiles do. They not only keep the heat in the firebox, but the combustion noise, too.

Because B&W IFB are the *lightest weight insulating firebrick,* they not only help you keep satisfied oil customers through lower fuel bills, but they will help eliminate "thunder storm" noise complaints, too.

Send today for the
B&W FIREBOX HANDBOOK
a valuable guide for every installer

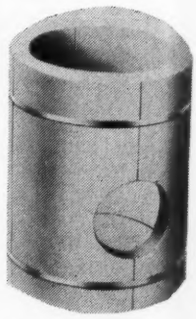


THE BABCOCK & WILCOX CO.
REFRACTORIES DIVISION
General Offices: 161 East 42nd St., New York 17, N.Y.
Works: Augusta, Ga.

R-495

Nu Standard Kolbkast Chamber is available in five Sizes

NU STANDARD KOLBKAST combustion chambers, available in five sizes, feature a tongue and groove design and a base recessed ¼" at the bottom, giving an air space that improves insulation to the floor. Insulating qualities are said to equal insulating brick.



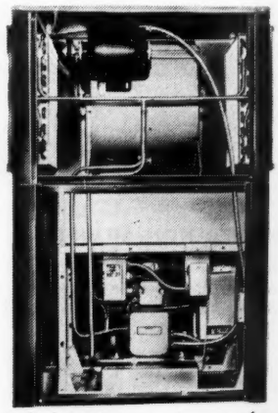
The chamber is shipped in six easily assembled pieces—four equal wall segments and two recessed base pieces. Two galvanized steel bands are furnished. Scientific packaging has been developed to prevent breakage.

Made by: Kolb Refractories Co., Meadow & Jackson Sts., Philadelphia 48, Pa.

Circle E5 on coupon, page 137

Auburn Burner now has Line of water Chillers and direct expansion Units

WATER CHILLERS and direct expansion airconditioning units have been announced by Auburn Burner. The water chillers (shown) are offered in 2, 3 and 5 hp sizes, hermetically-sealed, either air or water-cooled. All are shipped completely assembled, wired, refrigerant-charged and tested. Multiple units may be piped in parallel where additional capacity is needed.



Direct expansion systems are available in 2, 3 and 5 hp models, also in air or water-cooled models and designed so that they may be combined with heating equipment by using a furnace blower or used with integral blower. Also available is a remote condenser for 2 and 3 hp air-cooled systems, containing receiver, drier and service valves.

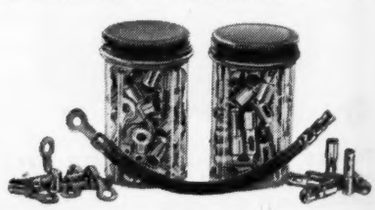
All the units are equipped with Tecumseh compressors.

Made by: Auburn Burner Co., Auburn, Ind.

Circle E6 on coupon, page 137

Hydrovalve has 'Controlled-Tension' ignition wire oilburner Terminals

A NEW ADDITION to Hydrovalve's line are "Controlled-Tension" ignition wire terminals for oilburners. Made of nickel-plated spring-tempered brass, the terminals have double spring-action grip which prevents loose connections for greater conductivity and longer life.



They easily snap on for stronger positive connections. Packaged 50 each in re-usable, clear plastic screw-top jars or in handy 12-pack.

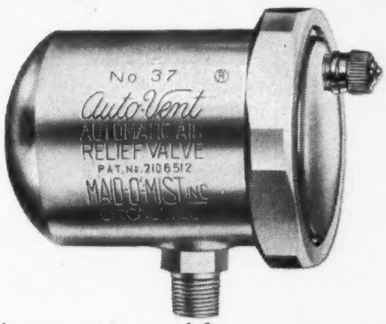
Hydrovalve has recently published a complete catalog of engineered oilburner replacement parts. It also contains a listing of service tools.

Made by: Hydrovalve Co., 1319 Utica Ave., Brooklyn 3, N. Y.

Circle E7 on coupon, page 137

'Air Vent' added to Maid-O'-Mist's 'Auto Vent' Air Eliminator Line

AN AUTOMATIC FLOAT OPERATED, continuous venting valve for hot water heating and chilled water cooling systems is being manufactured by Maid - O' - Mist Inc. Latest addition to the "Auto-Vent" air eliminator line the "Air Vent" is designed for vertical mounting only, with 1/8" I.P. male connection, and for pressure up to 50 psi.



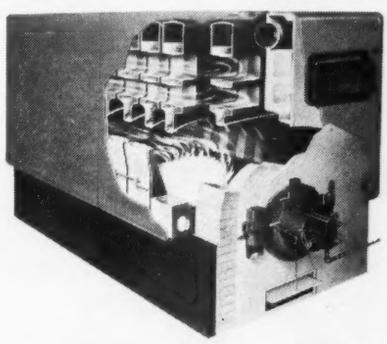
It answers the demand for a small automatic positive float type vent for combination heating and cooling convectors, baseboard radiation, and radiant panels where space is limited. Built entirely of non-ferrous materials, no air chamber is required.

Made by: Maid-O'-Mist, Inc., 3217 N. Pulaski Rd., Chicago 41.

Circle E8 on coupon, page 137

Weil-McLain introduces heavy-duty HR Boilers for horizontal rotary Burners

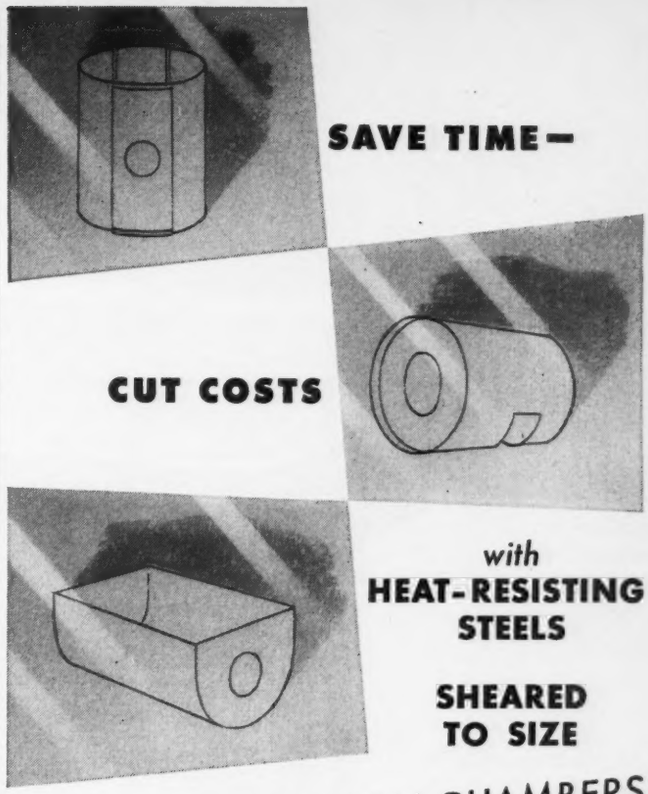
A CAST IRON HEAVY DUTY "HR" series boiler specifically for use with horizontal rotary oilburners has been announced by Weil-McLain. Capacities range to 12,270 sq. ft. steam, and 19,630 sq. ft. water. The special steel front plate and section simplifies installation of the burners.



The high steel base eliminates need for extensive brick work to obtain the correct burner height. Easy fit headers assure proper development and release of steam. Drawings showing front plate openings and proper combustion chamber construction for well known rotary burners are furnished.

Made by: Weil-McLain Co., Michigan City, Ind.

Circle E9 on coupon, page 137



SAVE TIME—

CUT COSTS

with
HEAT-RESISTING STEELS

SHEARED TO SIZE

for your COMBUSTION CHAMBERS

In more ways than one, it pays to specify Ingersoll heat-resisting stainless steel for your oil burner combustion chambers.

Ingersoll heat-resisting stainless has exceptional forming qualities—so it's easy to fabricate. Its analysis is correct—to withstand high temperatures. It's made by specialists—so you know it's made right.

Whether you use these steels in large or small quantities, Ingersoll facilities offer exceptional service by custom shearing to your own specified combustion chamber blanks, or multiples thereof.

Advantages
OF HEAT-RESISTING STEELS

★ ***No breakage in shipment or handling***

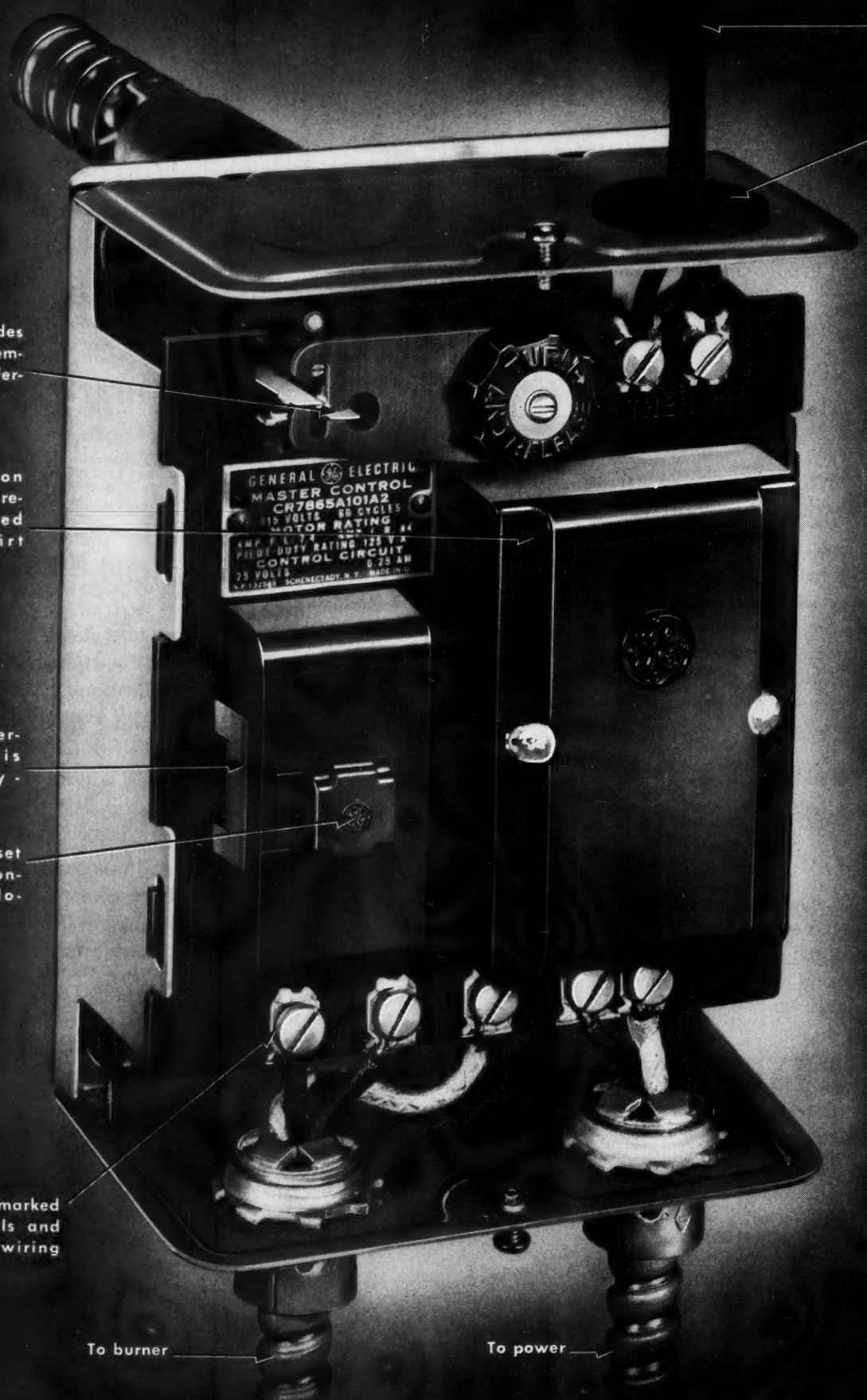
★ ***Lighter weight lowers freight costs***

★ ***Quicker heating—greater efficiency***

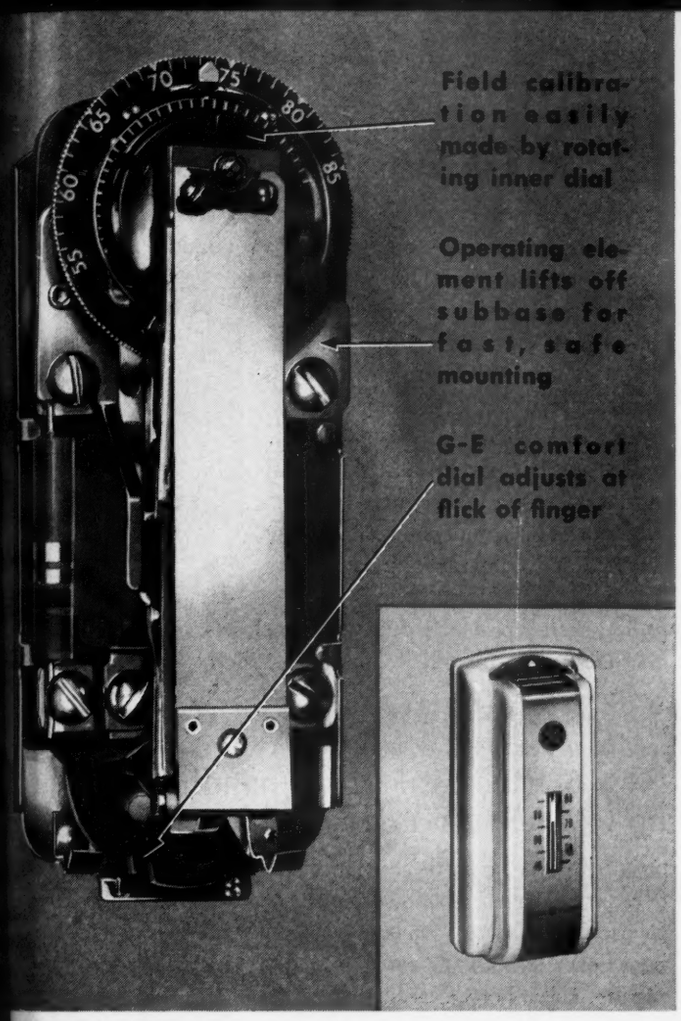
Write, wire or phone for details

ENGINEERING B-W PRODUCTION

Ingersoll
STEEL DIVISION
Borg-Warner Corporation
310 S. Michigan Ave., Chicago 4, Illinois
Plant: New Castle, Indiana



G-E STACK SWITCH is quickly installed with adjustable stack-mounting flange, ample wiring room. Lightweight construction reduces strain on stack.


Field calibration easily made by rotating inner dial
Operating element lifts off subbase for fast, safe mounting
G-E comfort dial adjusts at flick of finger

G-E THERMOSTAT special subbase makes mounting easier. New comfort dial gives user control over heating cycle.

G-E FAN AND LIMIT CONTROL mounts at any angle, includes summer switch. Steam or hot water unit switches also available.

These 3 Basic G-E Controls Handle Any Warm-air System

The General Electric basic package of new oil-burner controls speeds installation, saves you costly service calls because no leveling is needed. Here are all the necessary components for a complete warm-air control system:

G-E MASTER CONTROL with helix for regular stack mounting. Use it with any oil burner. No leveling, no adjustments, no call-backs. Just install it and forget it!

G-E THERMOSTAT designed and built for long-time customer-satisfaction. Easy to mount, easy to wire, easy to adjust. With the G-E Thermostat you get far less nuisance complaints . . . less profit-eating call-backs.

G-E FAN AND LIMIT CONTROL for warm-air furnaces means quick, easy installation, all-angle mounting, dependable operation. No leveling needed. Mechanical interlock prevents cycling on limit switch without fan operation.

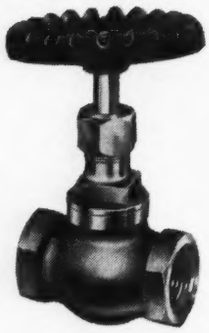
INTRODUCTORY EXCHANGE PLAN provides an easy way for you to try out G-E oil-burner controls. A serviceman or dealer merely takes an inoperative control of *any make* to his G-E servicing distributor and exchanges it for a factory-rebuilt G-E control of similar function. Remember —all rebuilt G-E controls carry a new control guarantee, except for finish, and Exchange Plan prices are far below those for new control. Ask, too, for G.E.'s pocket-size service manual—the finest in the industry.

FOR COMPLETE INFORMATION about General Electric oil-burner controls, contact your nearby G-E Apparatus Sales Office or Servicing Distributor, or write for bulletin GEA-6286—a new Buyers' Guide of all G-E heating controls, complete with descriptions, ordering directions, and prices. Address Section 740-27, General Electric Company, Schenectady 5, New York.

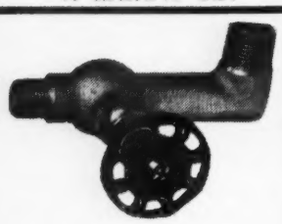
GENERAL ELECTRIC

the complete line of OIL TANK FILTER VALVES

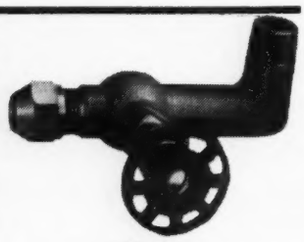
812-813
Oil Tank Valve
812—½" I.P.S. x ⅜" O.D.
¾" I.P.S. x ⅜" O.D.
813—½" I.P.S. x ½" O.D.
¾" I.P.S. x ½" O.D.



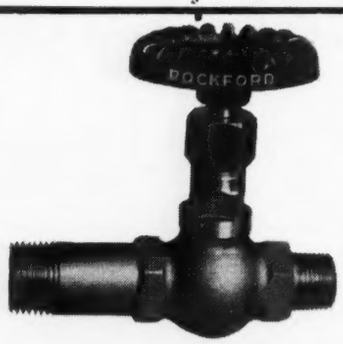
814—Brass Disc Globe Valve
¼" thru 2"



807—Bottom Outlet Oil Tank Filter Valve
½" or ¾" I.P.S. x ⅜" I.P.S.



805-806
Bottom Outlet Oil Tank Filter Valve
805
½" I.P.S. x ⅜" O.D. Flare
¾" I.P.S. x ⅜" O.D. Flare
806
½" I.P.S. x ½" O.D. Flare



809—Oil Tank Filter Valve
½" or ¾" I.P.S. x ⅜" I.P.S.

The superior features and quality of any Rockford Brass Works product quickly prove themselves in better performance and service.

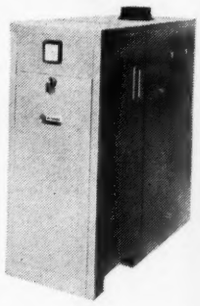
Write today for our catalog showing the complete line of plumbing and heating brass products that we manufacture.

Plumbing Brass Since 1890

ROCKFORD BRASS WORKS
ROCKFORD • ILLINOIS

Oilfired residential Boiler for steam or hot water Systems made by Richmond

AN OILFIRED BOILER called the "Pilgrim" has been introduced by Richmond Radiator Co. A tankless domestic water heater is available or the unit may be used with conventional tank. Low-water cut-off is optional. Enclosed in heavy steel casing, the unit is available without special jacket extended over burner.



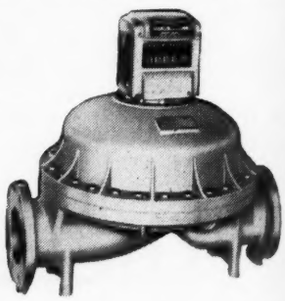
Has wet base design and glass wool insulation with aluminum foil facing. Flue outlet on top of unit allows easy connection to chimney. Controls are mounted in front of boiler. Compact design allows installation in basements, utility rooms closets.

Made by: Richmond Radiator Co., Metuchen, N. J.

Circle E10 on coupon, page 137

New 6" Red Seal Meter handling flows up to 1,000 gpm designed by Neptune

DESIGNED FOR larger bulk plants and terminals, the new 6" Red Seal meter handles high flows up to 1,000 gpm. Its design is based on the same principle of measurement as other Neptune meters . . . the oscillating piston, positive displacement measuring chamber.



The big meter is available with the Print-O-Meter ticket-printing register, with two types of direct-reading registers, or with Neptune Remote Control System. It has cast iron casings, with standard 6" flange connections. Interior mechanism is of corrosion-resistant metals. Registers are weatherproof.

Made by: Neptune Meter Co., 19 W. 50th St., New York 20.

Circle E11 on coupon, page 137

Independently cooled by-pass Motor added to Empire's Furnace Cleaner

EMPIRE'S NU-VAC furnace cleaner now comes equipped with an independently cooled by-pass motor for a slight additional cost. Since it does not depend on exhaust air to keep it cool, the furnace cleaner can be run for considerably longer time without overheating, and requires no oil or greasing.

Powered by a new ⅞ hp motor, the unit weighs 25 pounds, and is portable on rubber casters. The cleaner holds over a bushel of dirt, and also has an extra outlet for drop-light connections along with a rayon bag.

Made by: Empire Chemical Products Co., Newark 2, N. J.

Circle E12 on coupon, page 137

CENTURY

Announces New, Low-Cost

Completely Enclosed Preassembled Models

Burner Mounted and Factory-wired

Utility models—
preassembled, enclosed burners. Gas and oil.
Gas-fired model illustrated.

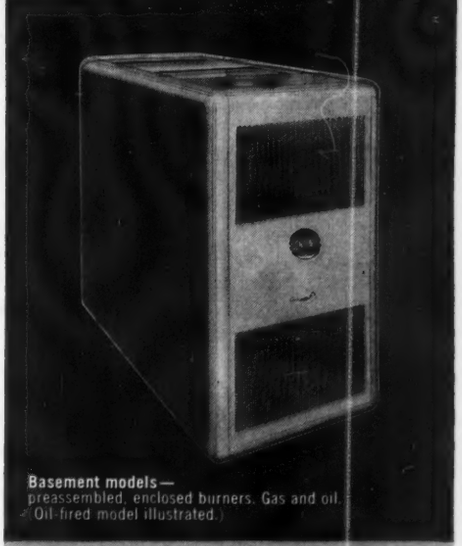
So neat, attractive, beautiful! They give you a big edge in getting the job. And these handsome new, completely enclosed Century models have all the famous Century engineering features, too. Their beauty is more than skin deep.

Deep crescent radiators—*spiral gas travel.* Hot gases from the combustion chamber spiral up, through and around *three* heating surfaces instead of the usual *one*. More of the heat generated heats the home, less goes up the chimney. You can show the customer simply, and clearly *why* these Century models take less fuel.

New, improved gas and oil burners—Completely enclosed, of course. The far-advanced Century oil burner burns all fuel efficiently, runs quietly and trouble-free. Century single-port gas burner never pops, burns clean as a pin. Approved for closet or alcove installation with minimum clearance.

Only you can offer these features—These new Century models are loaded with features that help *you* get the job. Find out all about them. Write to Century Engineering, Cedar Rapids, Iowa, or contact your Century wholesaler.

All units shipped completely assembled with burner mounted and factory-wired.



Basement models—
preassembled, enclosed burners. Gas and oil.
Oil-fired model illustrated.

The heating and cooling line that's "on the move." Sizes and types, gas and oil, heating and cooling, for every residential application.

CENTURY ENGINEERING CORP.
CEDAR RAPIDS, IOWA

Gentlemen:

Send me complete information on your new completely enclosed preassembled models . . . without obligation.

FOR

NAME_____

FIRM_____

ADDRESS_____

CITY_____ STATE_____

CENTURY

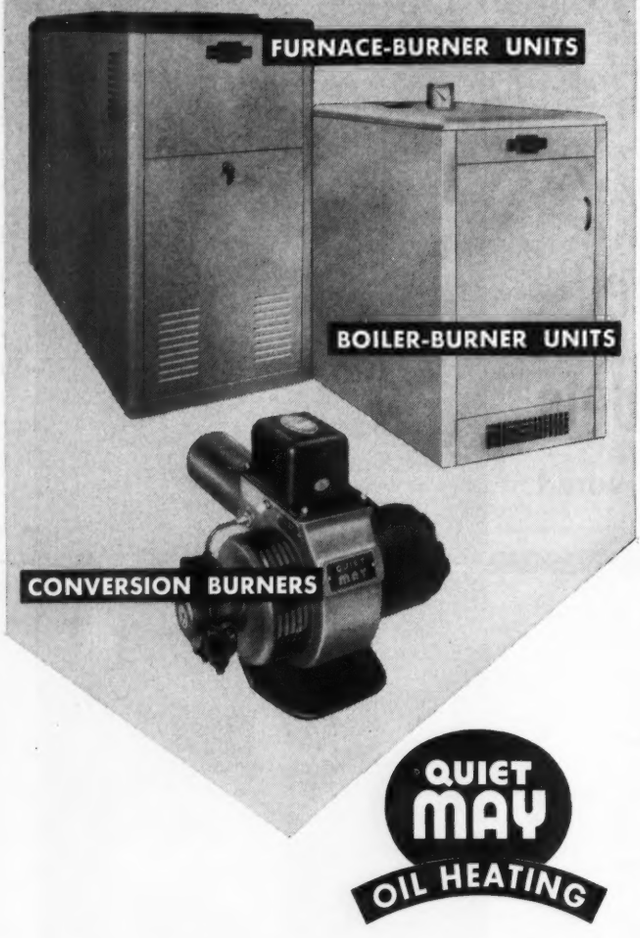
ENGINEERING CORPORATION

Cedar Rapids, Iowa

Leading manufacturer of heating equipment for over 30 years

fueloil & oilheat

For 31 Years . . .
A World-Wide Reputation
For Quality and Value!



QUIET MAY OIL HEATING

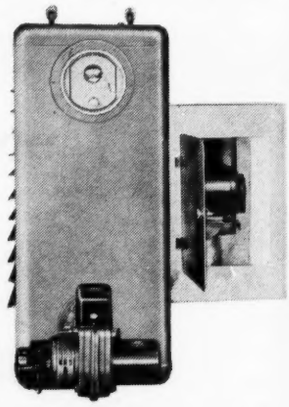
Since the pioneer days of the industry, Quiet May oil heating equipment has been known for unfailing dependability. Sold and installed on five continents, Quiet May has earned a solid international reputation . . . built on the most exacting standards of quality materials, engineering and workmanship. Today's Quiet May equipment is the product of progress . . . and the finest ever built!

For oil heating equipment that you can sell and install with confidence . . . at a profit . . . get the facts about the Quiet May line. Write today to Dept. MFO-1.

QUIET MAY DIVISION
PENN BOILER & BURNER MANUFACTURING CORP.
LANCASTER, PENNSYLVANIA

Delta adds oilfired unit Heater which has galvanized duct Frame

MODEL UHE series, oilfired unit heaters fired with gun type oilburners, has been added to the Delta line. The heater features a galvanized frame around the propeller fan and motor assembly simplifying attachment to ducts. Available in six sizes—from 110,000 to 280,000 Btu/hr—heaters have adjustable front louvers or flanged front if continuing duct work is to be used.



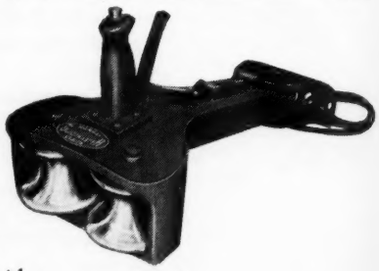
An accessory to the line consists of a frame holding vertical louvers which fits across the face of the heater, adjustable to spread heated air horizontally. Standard louvers behind the frame control horizontal flow.

Made by: Delta Heating Corp., Trenton 8, N. J.

Circle E13 on coupon, page 137

Hannay's 'Guidemaster' allows oil Delivery from either side of Truck

A NEW HOSE GUIDE and level-rewind attachment has been developed by Clifford B. Hannay & Son, Inc. The "Guidemaster" enables delivery men to unwind hose easily to the left or right sides of trucks, thus, doing away with parking problems and preventing scuffing of hose on panel sides.



The operator sets the guide arm for left, right or straight positions and unreels the hose while the ball bearing rollers prevent sharp bending. In rewinding, the guide arm swings easily back and forth as the hose rewinds.

Made by: Clifford B. Hannay & Son, Inc., 545 Main St., Westerlo, N. Y.

Circle E14 on coupon, page 137

Superior Metal adds to Line of Spee-D-Lok galvanized Fittings

A NEW FIVE FT. LENGTH has been added to the Spee-D-Lok line of galvanized furnace pipe and fittings. The new joint uses the "tongue-in-groove" locking feature of the 2 ft. length, eliminating tooling and malleting for its entire 5 ft. length.

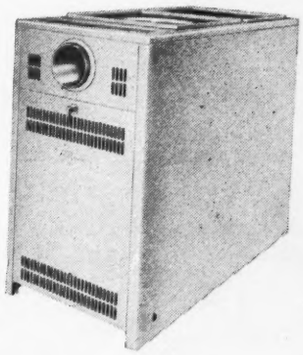
The new pipe features a vanishing crimp to simplify installation, while cutting does not damage the locking edges. Cartons contain 10 lengths.

Made by: Superior Metal Fabricating Co., Niles, Ohio.

Circle E15 on coupon, page 137

Oil winter Airconditioner for larger Homes announced by Thatcher Furnace

A FULLY AUTOMATIC winter airconditioner has been specifically designed for heating of medium and larger homes by Thatcher Furnace Co. Designated as the "542" Winter Airconditioner, the unit has an output capacity of 209,600 btu/hr. at bonnet.



The heat exchanger is fabricated of heavvy gauge steel and is guaranteed for 10 years. An automatic humidifier is offered as optional equipment.

Made by: Thatcher Furnace Co., Garwood, N. J.

Circle E16 on coupon below

General Electric develops mobile Transmitter-Receiver for Trucks

GENERAL ELECTRIC has introduced a mobile transmitter-receiver for radio combination. Called series 17, mobile combination, it is adapted to front mount or trunk mount. The models are encased in a 14" housing.

It has 6/12 volt interchangeability, plug-in building-block chassis. The combination has up to 110 watts power output.

Made by: General Electric Co., Electronics Park, Syracuse, N. Y.

Circle E17 on coupon below

READER SERVICE COUPON

FUELOIL & OIL HEAT READER SERVICE
2 West 45th St., New York 36
REPLY CARD JULY
Mail Now—Card Expires September 30, 1955

Circle numbers of new product items on which you want more information:

NEW PRODUCTS

E1 E2 E3 E4 E5 E6 E7 E8 E9
E10 E11 E12 E13 E14 E15 E16 E17

ADVERTISEMENTS—Give page number and name of advertiser about whose products you want more information.

Page .....Advertiser .....

Your Name .....

Company .....Position .....

Street .....

City .....

Check Classification of principal dollar volume:
☐ Fueloil Dealer ☐ Parts and Equipment Jobber ☐ Manufacturer
☐ Manufacturer Employee ☐ Manufacturers Rep. ☐ Oilheating Dealer ☐ Other

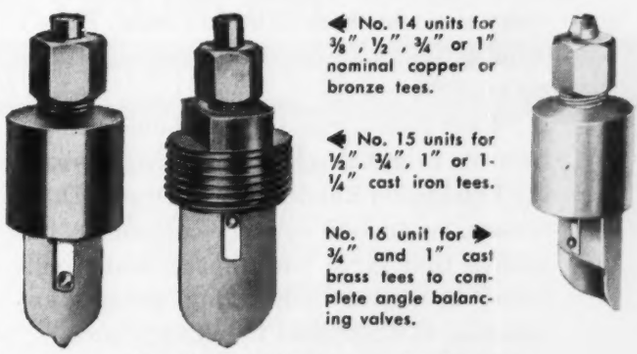
NOW!
Make a balancing valve from any standard tee!

LOW COST EASY WAY!

MAID-O'-MIST ADAPTER UNITS

Phantom view above shows how Maid-O'-Mist Adapter Unit makes any copper, bronze or cast iron tee an efficient balancing valve. These units regulate the flow of hot or chilled water . . . through radiators, convectors, baseboard panels, radiant coils, return mains or branches. Because there is no reduction in pipe diameter, these Adapter Units permit full free flow through the tee . . . with no restriction except for the balancing required. Precision-made of non-ferrous metals; packed stem construction. Balancing is easily adjusted by a screwdriver.

3 TYPES FILL ALL BALANCING NEEDS:



◀ No. 14 units for ⅜", ½", ¾" or 1" nominal copper or bronze tees.

◀ No. 15 units for ½", ¾", 1" or 1-¼" cast iron tees.

No. 16 unit for ▶ ¾" and 1" cast brass tees to complete angle balancing valves.

Consult your wholesaler or write direct to

MAID-O'-MIST, Inc.
3217 NORTH PULASKI ROAD
CHICAGO 41, ILLINOIS

MAID-O-MIST Inc. HEATING SPECIALTIES

Make this FREE folder a must!

What every fuel dealer should know
the cost-saving Remington Rand
Kardex "Degree-Day" system of fuel-oil delivery control
The "Degree-Day" system of fuel-oil delivery control tells you in advance
1 Which customers need fuel oil
2 How much they need
3 What kind they use
4 Where they are located
5 When delivery should be made
Think of the improved service you can supply with this information ... the important economies you can effect. You can cut delivery costs through better routing ... reduce emergency and overtime trips. You will actually sell more gallons at a bigger profit per gallon, since purchasers' needs are filled "automatically" as they arise.
Everybody talks about the weather, but only Kardex does something about it. Kardex puts the weather to work for greater profits!
Remington Rand

Here's required reading for fuel dealers of every size who want to build profits. Here's information that deserves your attention *right now!*

"What Every Fuel Dealer Should Know" tells you everything you should know about the Remington Rand Kardex "Degree Day" system for fuel-oil delivery control . . . the system that gives you unprecedented efficiency in delivery scheduling, permits undreamed of economies in delivery costs.

With the Kardex Degree Day system, you can improve service while cutting delivery costs through better routing and by reducing emergency and overtime trips. Better service means more customers, and there's no beating the service you can supply with this system. It all adds up to more gallons sold at a bigger profit per gallon, with customers' needs filled *before* they arise.

Find out more about this ideal system while there is still time to put it to work for you this coming fall. Find out more by writing today for Folder KD778. Address your requests to Room 1708, 315 Fourth Avenue, New York 10, N. Y. Do it now.

Remington Rand INC

EVERYBODY'S TALKING ABOUT THE

NEW

LARGE ECONOMY SIZE

International Economy® Big-Boy

Installation cost is the key to profits in any commercial-size heating system. And that's the big story on the new Economy® Big-Boy — easy installation! In the new Economy® Big-Boy you're working with the smallest commercial unit on the market *for its capacity.* Everything about it is compact, efficient . . . designed to save you time, labor and costly call-backs.

Here's why they'll buy

New Economy Big Boy Furnaces

Models OL-336, OL-448

- Occupies Little Floor Space — 54" x 69" x 70"
- Firing Rate, 420,000 and 560,000 Btu/Hour
- Bonnet Output, 336,000 and 448,000 Btu/Hour
- Handsome Heavy Gauge Cabinet
- Convertible from Oil to Gas

The Finest in Home Heating Since 1842 . . . Complete Cooling, too!

INTERNATIONAL Heater Co., Utica 2, N.Y.

WHAT'S REALLY GOT 'EM TALKING...

. . . is the **COMBUSTION CHAMBER** that's completely factory-assembled and already *in* the Heating Element . . . no fussing with firebrick.

. . . the **HEATING ELEMENT** itself—quick to erect, one piece, gas-tight—only 27" wide, 66" high and 71" long over-all, as shipped. Beauty of it is, it will pass through any standard doorway. Think of the time and trouble that can save!

. . . then there's the **ALL-METAL BASE** under the unit, making it easier to assemble, easier to level—tighter, cleaner.

. . . and—a very important design feature—the **BLOWERS** may be placed on *either* the right or left side, to fit any unusual condition. ***Like to hear more?***

See your distributor — or write: Dept. F-755

"MOST VALUABLE" in producing sales

Such integral values as design, construction and performance give the Sundstrand line selling power backed by consumer acceptance.

The public hears about Sundstrand. They see Sundstrand. They buy Sundstrand.

Because: Ultimate heating satisfaction means having an oil burner with

★*Durability* ★*Overall Economy*
★*Dependability* ★*Quiet Operation*
★*Compact Design*

These salient features result from 32 years of engineering and development by Sundstrand. Available is a complete line of oil burners for new installations or conversion. You can increase *your* sales with Sundstrand.

write to

SUNDSTRAND ENGINEERING CO., Rockford, Illinois

Superior Filtering for all Oil Burning Equipment!

Klemm MICRO FUEL OIL FILTERS

FF-430 U/L

There's a Klemm Fuel Filter for every standard burner using No. 1 and 2 fuel oil. Your choice . . . metal or glass bowl. "Millions Since 1932."

1. Practically no flow resistance—true depth filtration.
2. Simplified construction for simplified service . . . no tools required.
3. Eliminates nozzle and line clogging for increased burner efficiency.
4. All parts . . . Hi-Chrome and Brushed Zinc.

FF-430G

PK-150 U/L

JR-60

chemistone

Controlled porosity element assures sparkling, crystal-clean fuel oil every minute. Traps water . . . removes dust, rust and scale.

Klemm PRODUCTS

Division of
KLEMM AUTOMOTIVE PRODUCTS COMPANY
1722 North Damen Avenue • Chicago 47, Illinois
EXPORT: Guiterman Co., Inc., New York 4
CANADA: Elgee, Ltd., Toronto

Manufacturers' Activities

Prof. Seeley joins H. B. Smith and is elected Vice-president

PROF. LAUREN E. SEELEY, associated with the company since 1925 in a consulting capacity, was elected vice-president, engineering at the annual meeting of the H. B. Smith Co., Westfield, Mass.

At the same time Franklin A. Ferguson was named president to succeed Stanley K. Smith, who after ten years in the presidency has advanced to chairman of the board. Ferguson has been with the company for 27 years, in recent years as a vice-president.

Other officers elected were: George W. Roraback, vice-president, purchasing, planning and shipping; A. Lionel Lawrence, treasurer; John E. Reed, clerk and Sidney T. Dorrington, assistant treasurer and assistant clerk.

In addition to all these officers, Coll T. Flint, Boston branch manager and Walter M. Todd, New York branch manager, are on the board of directors.

Prof. Seeley has an interesting and colorful background. From 1923 to 1945 he was instructor, assistant professor and associate professor at the School of Engineering, Yale University and since September 1945 he has been Dean, College of Technology, University of New Hampshire. At the same time he was Director of the University's Engineering Experiment Station.

Prof. Seeley has been a director of H. B. Smith Co. for several years and in his new capacity will head a new and enlarged program of engineering production in product development.

Webster Electric Co. adds three to industrial Sales

THREE ADDITIONS to the sales staff of the Industrial Sales Division have

SOOTMASTER

Furnace Cleaner with Disposable Filter . . .

CLEANS EASIER, SAFER, FASTER!

✓No Outside Bag
✓No Dust Bag to Empty
✓Disposable Filter for easy emptying of container
✓Leak-proof Dust Filters
✓Double Filter Protection
✓Compact - Light in Weight
✓Easy to Handle

Interested? Want more details? Contact your jobber or write us today.

MASTER-CRAFT SUPPLY CO., INC. Dept. FO HAVERSTRAW, NEW YORK

The 250,000 *square feet of grass at the base of the Statue of Liberty on Bedloe's Island, New York, recently received a liquid fertilizer spraying as the result of a gift by Edwin J. Frank, president of the Fertilene Corp. of America, Worthington, O. Here a group of New York Girl Scouts, aged 10-14, who participated in the project demonstrate the method by which the product was applied.*

been announced by the Webster Electric Co., Racine, Wisconsin. The new appointments include Paul Deuble, Sylvester Sincavage, and John Kralicek.

All three will be in the Wholesaler Service Department, with Deuble contacting dealers in Ohio, Michigan, and Indiana from Oberlin, Ohio; Sincabage serving the New York, New Jersey and Pennsylvania area from Allentown, Pa.; and Kralicek covering the Minnesota, Wisconsin, Iowa, Illinois, Ohio, Indiana and Missouri sections out of Indianapolis, Indiana.

Shana reveals Airconditioning Program for Dealer, Consumer

DESIGNED TO be workable in 48 states, an airconditioning educational program for dealers and consumers has been announced by Shana Manufacturing, Inc., Chicago, Ill.

Consisting of specially prepared material in two categories, one aimed at providing the dealer with the necessary "tools" for selling, and the other pointed at educating the public in the various types of airconditioning available in today's market, the program includes a number of educational and public relations aids such as television and radio scripts, editorial press releases and a telephone program.

Information about the educational plan may be obtained from the corporation's home office.

OPW Corporation completes Purchase of Jordan Regulator

THE JORDAN REGULATOR CORP., Cincinnati, Ohio, manufacturers of pressure and temperature regulating valves for industrial applications has been purchased by the OPW Corporation, Cincinnati. OPW is a producer of valves, fittings and assemblies for handling hazardous liquids.

To be known as the Jordan Corporation, the newly acquired company will function and operate as a division of OPW with factory and offices remaining in Cincinnati, Ohio.

Elected officers for the new unit are: G. L. Ohrstrom, chairman of the board; G. B. Richards, president; R. W. Gronauer, vice president; W. D. Boone, vice president; and E. W. Darenkamp, secretary and treasurer.

"We insist that our customers get only the best product that we can obtain for them."

says

B. H. MELTON
Mgr., Fuel Oil Dept.

REAMER OIL CO.

Gulf Solar Heat Brand Dealer
Columbia, S. C.

"This dictum laid down over 80 years ago has never been altered, with the result that we handle GULF SOLAR HEAT exclusively. Our customers get more satisfaction, and our burner service department fewer headaches with GULF SOLAR HEAT."

Gulf is proud to be teamed up with such a fine organization!

GULF OIL CORPORATION
GULF REFINING COMPANY

GULF SOLAR HEAT heating oil

"Instrument check-ups open the doors to profitable equipment sales."

FYRITE Combustion-Testing SERVICE KIT

. . QUALITY INSTRUMENTS that Pay for Themselves

The FYRITE Service Kit provides a complete set of accurate, quality-built combustion-testing instruments at the lowest cost. It includes the FYRITE CO_2 Indicator which is unsurpassed for fast, accurate flue gas analysis; and also contains the popular DRAFTRITE Draft Gauge and the 950° F. mercury Stack Thermometer, all packed in a sturdy steel instrument chest.

The chest is equipped with brackets for the mercury thermometer, and the TEMPOINT 200°-1000° F. Dial Thermometer shown at the right which may be substituted for the mercury thermometer at slight extra cost.

Ask your Jobber or Write for Bulletin 730

BACHARACH Industrial Instrument Co.
7301 PENN AVENUE • PITTSBURGH 8, PA.

AUGUST is a MONTH

Special Days in August

August 1-31 is National Sandwich Month
2-8 Relaxation Week
7 Friendship Day
14 Atlantic Charter Day
14 Victory Day; World War II Memorial Day
15 to Sept. 15 "Cherry Pie Time"
16 Bennington Battle Day
19 National Aviation Day
30 Huey P. Long's Birthday

August is also the month during which the Dealers have been selling and installing about 12.4% of their year's oilheating business; have been securing about 8.4% of their year's oilheating "service calls" income.

Manufacturers shipped 11.6% of last year's total during August; and ordinarily obtain about 10.3% of the year's new customers—dealers and jobbers—during August.

Fact Finders Associates, Inc. in a check of names they selected from telephone books in 20 cities, by personal interview found that—

Fueloil & Oil Heat is read by 87% of the dealers listed under "Oilheating" or "Oil Burners" or "Burners, Oil" or "Fueloil" or "Oils, Fuel" in the phone directories.

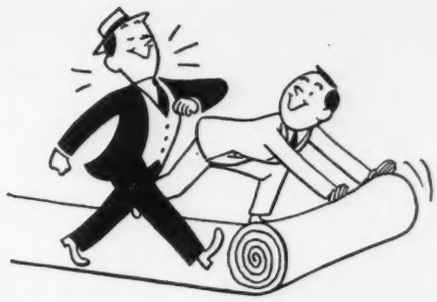
4.1 persons read each copy among dealers; 7 read each copy among manufacturers. They spend an average of 1¼ hours reading each copy, and 43% of the dealers and 50% of the manufacturers read it at home.

We have some plus services for advertisers: A Mailing Service for those who wish to send out catalog material, literature, etc., to augment their display advertising; a free sample list of jobbers; free lists of manufacturers' agents and representatives; the monthly *Merchandising Newsletter* for executives of our advertisers' organizations; technical and merchandising advice, etc.

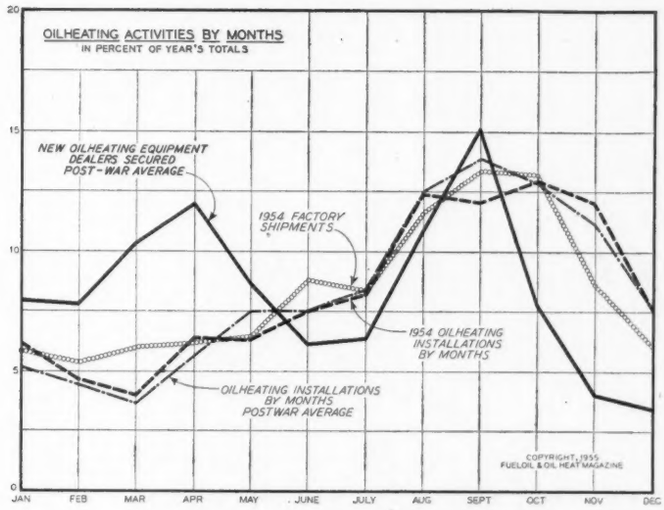
FUELOIL & OIL HEAT is a member of ABC (Audit Bureau of Circulation) and BPA (Business Publication Audit of Circulations).

FUELOIL & OIL HEAT is a complete magazine—a journal of discussion in which all the "How and Why" questions, and current items of interest are examined and explained. Our own Staff (five editors, three assistants) and competent outside writers, cover everything on oilheating and fueloil, including markets, industry trends, technical developments, installation and service data, technical procedures, new products, news of men, organizations and companies, editorial comment, etc. Our men have long been foremost in battling for Oilheating Industry Progress.

H for a BIG PUSH



A Good Time to Roll Your Advertising Out Ahead of Your Salesmen!



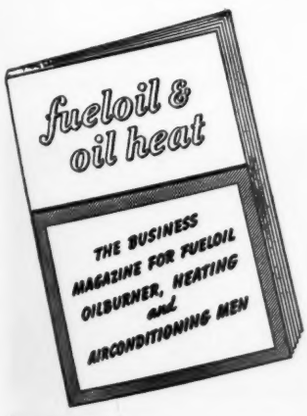
⬆ Here is where the August Issue will reach the field! It's an excellent time to advertise!

Advertising in our pages reaches the dealers who sell and install 78% of the oilheating; who do 90% of the service—replacement of parts, accessories and "modernization"; and 75% of the oil-fired year-round "airconditioning" (cooling for comfort); and who sell and deliver 80% of the Nation's fueloil.

Your ads in our pages will also reach the jobbers who do 78% of the oilheating parts, accessories, installation and service materials, etc., and 99.9% of all the manufacturing executives in the U. S. who engineer, develop, produce or sell oilheating equipment.

AD FORMS CLOSE JULY 20

How Much Space Should We Reserve for You?



FUELOIL & OIL HEAT

2 West 45th St., New York 36, N. Y. • (MUrray Hill 2-4786)

A. G. WINKLER, *Adv. Mgr.* **LEE STEEDLE, *Ass't. Adv. Mgr.***

Midwest:—
Jack Metzel, 224 So. Michigan Ave., Room 200, Chicago 4 (WAbash 2-9548)

Michigan-Ohio:—
Jim Becker, 177 No. Main Street, Oberlin, Ohio (OBerlin 4-2814)

Pacific Coast:—
Don Harway, 1709 W. 8th St., Los Angeles 17, Calif. (DUnkirk 2-8576)

The Donahue Coal Co., *Worcester, Mass. distributor for Esso Standard Oil and the Mercoid Corp., Chicago, Ill., recently held a joint educational meeting for oilheating dealers in the Worcester area on control installation and servicing. Under the direction of Al Johnson of Mercoid, approximately 27 men attended the lectures.*

National-U. S. Radiator Corp. elects Officers for Company

THEODORE B. FOCKE, president, National-U. S. Radiator Corp., Johnstown, Pa., has announced the following officers for the corporation which was formed on April 1 when National Radiator and United States Radiator merged.

Carroll M. Baumgardner is senior vice president for sales; Louis N. Hunter is senior vice president for engineering and research; and Howard B. Steggall is senior vice president for manufacturing.

Other vice presidents and their divisions are: John C. Hass and F. M. Swartz, manufacturing; Edmond J. Grady, Pacific Steel Boiler Division; Marion I. Levy, Viking Division; and J. Roy Knox, Heating and Air Conditioning Division.

Ralph W. Bolsinger has been elected secretary; John G. dePass, secretary; B. C. Straub, comptroller; and L. L. Hotsenpiller, executive assistant to the president.

Waterman-Waterbury names three as District Managers

AS PART of a general marketing reorganization program, the Waterman-Waterbury Co., Minneapolis, Minn., has created three new sales territories and has announced the appointment of three district managers.

W. L. Yeager will cover the Central East from newly established head-

Wiscomb Yeager Ellsworth

UP TO 58½% lighter

THAN COMPARABLE COUPLINGS!

New Flexiflange Flexible Couplings — Specially Designed for Tank-Truck Use

Because the emphasis over the past few years has been on *faster unloading*, truck and trailer truck operators have been moving to large size piping. There has been one important drawback, however, to this trend. Leakproof, flexible couplings to fit the larger pipe have always been available—but they are designed primarily for use in bulk plants and refineries. This means they are much heavier than need be.

Now Philadelphia Valve Co. has solved the problem with its new line of Flexiflange Flexible Couplings. Made of malleable iron, they are engineered specifically for use in truck and trailer tanks. They're designed for 100 psi with a liberal safety factor—far stronger than necessary for tank-truck service—yet in most cases they offer a weight saving of up to 58½ percent!

Flexiflange Couplings fit into the same grooves as any standard couplings. The seals, too, are interchangeable with other standard makes. They are available in all sizes from 1" to 6". Pipe sleeve adapters can also be furnished.

To get peak efficiency with up to 58½ percent saving in weight, be sure to specify Flexiflange Couplings by Philadelphia Valve. Write for complete information and prices.

PHILADELPHIA VALVE COMPANY

3413 Aramingo Avenue, Philadelphia 34, Pa.

Pacific Coast Distributors:

Oil Marketing Equipment Co., 325 Fremont Street, San Francisco 5, Calif. • Howard Supply Co., 5125 Santa Fe Avenue, Los Angeles 11, Calif.

How to stop a cold client from getting hot under the collar!

When a clogged oil burner nozzle sends a cold client on a polar expedition at the crack of dawn – chances are you'll be blamed even though tank and pipe scale caused the trouble.

But there *is* a way you can transform this frosty situation into good will – and make a sale at the same time. Simply explain to your customer that what he needs is a Purolator filter!

If he drives a car, he knows what a Purolator is and what it does. He's already presold. Just point out that a Purolator PF-2002 oil burner fuel line filter prevents nozzle clogging, and a lot more besides. It cuts down fuel pump wear . . . keeps his burner running smoothly . . . actually lowers his fuel consumption by improving combustion. He'll be sold on Purolator, and you'll have a happier customer.

Purolators are easy to install and service . . .

Simply connect directly into the fuel line on the suction side of the pump. No mounting fixture needed. And the only maintenance is an annual replacement of the Purolator PF-200 filter element.

For complete details and prices of Purolator filters for domestic oil burner installation, write Dept. OB2-712, Purolator Products, Inc., Rahway, N. J.

PUROLATOR

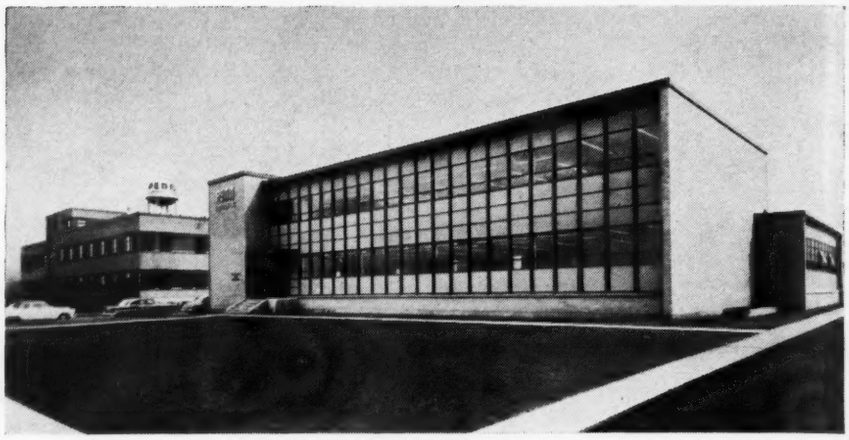
"FIRST IN THE FIELD OF FILTERING"

fueloil & oilheat

quarters at Columbus, Ohio; J. W. Ellsworth will headquarter at Des Moines, Iowa; and W. D. Wiscomb will cover Colorado, Utah, Wyoming and Idaho operating out of Salt Lake City, Utah.

Engineering, Research Unit opened by Penn Controls

OPEN HOUSE was held recently by Penn Controls, Inc., Goshen, Ind., to formally open the company's new engineering and research building. It was



the first time since 1937 that the organization had allowed the general public to enter its plant.

Several thousand people were conducted on general tours, while suppliers, customers, and stockholders were also provided with special trips throughout the plant.

Constructed of steel and concrete, the new building adds 18,000 square feet of floor space for the company.

George Caponegro Sons buys Burcar Manufacturing Co.

PURCHASE of the Burcar Manufacturing Co., Stamford, Conn., oilburner producers, was announced recently by George Caponegro Sons, Inc., Newark, N. J.

Although the Burcar company name is retained, all office and manufacturing facilities have been moved to Newark. The new company's officers are: Sam Caponegro, president; George Caponegro, vice president and general manager; and Anthony Caponegro, secretary, and the present line of Burcar conversion oilburners will be retained.

Eureka-Williams Co. starts "Point-A-Minute" Contest

AS PART of its summer sales campaign, the Williams Division, Eureka-Williams Co., Bloomington, Ill., has inaugurated a "Point-A-Minute" contest for dealers which will offer prizes ranging from rifles to kitchen ranges.

A series of regional meetings for the Williams field sales staff, held by Charles Branch, division sales manager, outlined details of the seven-

A SUPER Furnace Cleaner Is Your Super Salesman

It's the satisfied customer who brings you the most new business, according to a recent survey by competent authorities.

Super Model SH—For both wet and dry, hot and cold cleaning. May be equipped with Supertex Filter Bag at slight extra cost. Note that Supertex bag is not over-size but of standard compact size.

Nothing else you can do will create more customer satisfaction than Super cleaning heating plants. With a Super Model SH, you can be sure that your customers are getting the best possible performance from the plant. They tell their friends about it, and you have new prospects for plants and service.

The Super Model SH is light in weight, handles easily, but is powered and equipped especially to do a fast, thorough job on all kinds of furnaces. Chimney cleaning tools, which operate from the bottom up, are standard equipment.

There are no slack seasons with a Super. You can clean furnaces all year 'round. Ask your local Super dealer. Write for complete specification data.

THE NATIONAL SUPER SERVICE COMPANY
1951 N. 12th Street Toledo 2, Ohio

Sales and Service in Principal Cities

In Canada: Plant Maintenance Equipment Co. Toronto, Montreal, Vancouver

"Once Over Does It"

SUPER SUCTION®

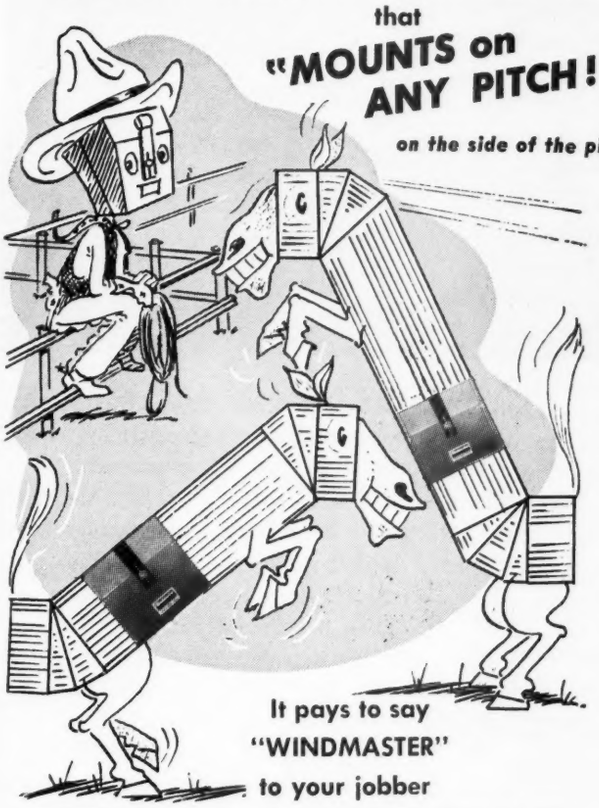
SINCE 1911

"THE DRAFT HORSE OF POWER SUCTION CLEANERS"

WINDMASTER the modern draft control that

"MOUNTS on ANY PITCH!"

on the side of the pipe



It pays to say "WINDMASTER" to your jobber

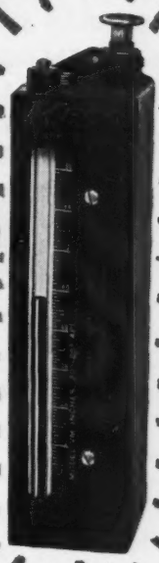
Windmaster Corp. 43 Vine St. Columbus 15, Ohio

new!

KECO

Remote-Reading **TANK GAUGE**

For Oil and Gasoline



- Versatile!
- Attractively Priced!
- Economical to Handle!
- Minimum Dealer Inventory!

FREE BULLETIN shows why the Keco gauge is a natural for users, distributors and dealers alike. Write Today!

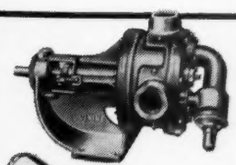
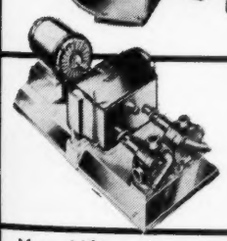
KING ENGINEERING CORP.

Box 410 • Ann Arbor, Mich.

MANUFACTURERS OF GAUGING EQUIPMENT FOR OVER 30 YEARS

PICK THE RIGHT VIKING PUMP FOR YOUR NEEDS

It's easy with this Simple Chart

	Catalog	Service	Capacity	Maximum Pressure	Features
	Ask for Section G-ee	**TRUCK MOUNTED** Fuel Oil Pump for Fast Delivery Service	35 to 300 G.P.M.	100 P.S.I. Non-Lubricating Liquids. 200 P.S.I. Lubricating Liquids	Integral Thrust Bearing. Packed or Mechanical Seal. Relief Valve on Head
	Ask for Section G-ee	**BULK PLANT ALL WEATHER** Twin Pumps for Handling Two Similar Petroleum Products	100 G.P.M. Each Pump	50 P.S.I. For Higher Pressures Consult Factory	Totally Enclosed. No Pump House Needed. Packed or Mechanical Seal

Your Viking district office or distributor will promptly furnish complete information on these or many other Viking rotary pumps *to fit your needs.* Send for any of the above catalogs or check with your Viking distributor.

VIKING PUMP COMPANY

Cedar Falls, Iowa *See our catalog in SWEETS*

THE ORIGINAL "GEAR-WITHIN-A-GEAR" ROTARY PUMP

OIL BURNER IGNITION ASSEMBLIES *for* **industrial and residential use**

CROWN offers a complete line of standard oil burner electrode assemblies, cable assemblies, hardware, terminals and UL approved cable. Quality is the finest available. Ceramic insulators are UL approved. Prompt, efficient, reliable service on all orders—large or small.

Complete Service

CROWN engineering service is complete. Call or write today for complete information on standard or custom-built assemblies. Literature on request.

Crown Engineering CORPORATION

KEYPORT • NEW JERSEY

"HANDLES LARGE VOLUME ON SMALL AMOUNT OF CAPITAL, CAUSING SOME TRADE SLOWNESS. PROGRESS SMALL."

That's what a Dun and Bradstreet report told us about a company whose credit we were checking.

It sums up a condition that is almost universal where sales are expanding too rapidly to be handled properly out of profits after taxes.

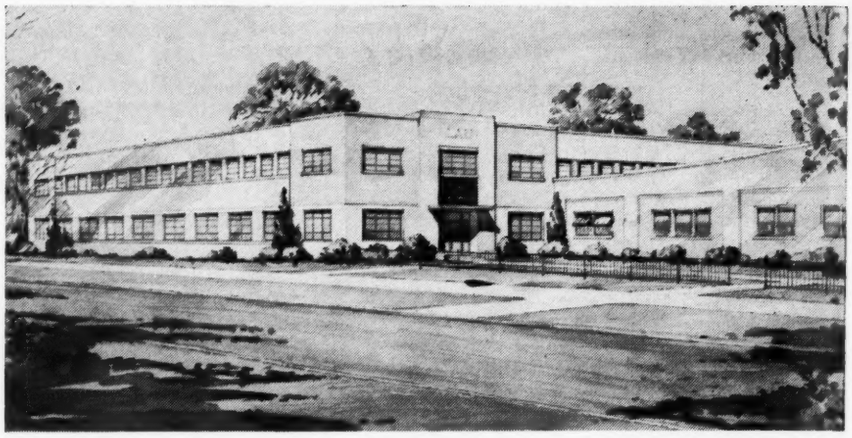
Lexington's plan of financing on the security of accounts receivable is the way to cure this situation and change "progress small" to "progress substantial."

Write for Descriptive Circular F-6

LEXINGTON CORPORATION

Fuel Financing
In the New England Area

M. S. Lurie, Pres., D. A. Robinson, Treas.
10 Milk Street, Boston 8, Mass.
Liberty 2-6264



week competition. Started on June 27, the campaign will close August 14, thus giving the dealers 42 working days or 25,200 minutes to compete for a total of 25,200 selling points. Each merchandise prize carries its own point valuation in the contest.

Lau Blower will Construct Addition to Dayton plant

AUTHORIZATION by the board of directors of the Lau Blower Co., Dayton, Ohio, for the construction of a new fabricating and office building to be added to the present Dayton plant was announced recently by Harold W. Faulkender, Lau president.

The new construction is the result of a $1,600,000 expansion program, and it will increase office space by 20,000 square feet and factory area by 45,000 square feet.

To be completed in late 1955, the new unit will be a modern two-story building which will release much of present factory space for the manufacture of portable window fans and other fans produced by the company.

NEW LOW PRICES on COLE-SEWELL DRAFT CONTROLS

MODEL 730

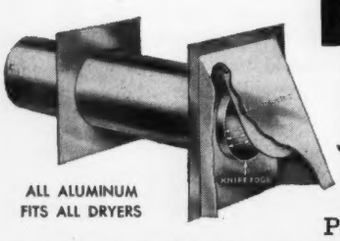
Standard Round
SULLIVAN STABILIZER

Gate control with or without universal sleeves. Open check type. Top or side mounting. Perfectly counterbalanced. Ball bearings. Stock sizes from 14" to 36". Special sizes on order.

Standard Round
DRAFT KOREKTOR

Low price, positive action gate control designed specially for oil burners and stokers. Exclusive friction-free, knife-edge bearings. Stock sizes 7" to 12". 4" to 6" sizes for stoves and space heaters.

MODEL 909



ALL ALUMINUM
FITS ALL DRYERS

The Original
LAUND-R-VENT

For any automatic clothes dryer. Vents moisture, lint, odors, etc., to outside. Easily installed. Friction free. Rust proof. Won't freeze. 3" and 4" sizes. Standard and special kits. SNAP LOCK PIPE or new flexible tubing.

COLE-SEWELL ENGINEERING CO.
2288 UNIVERSITY AVE. • ST. PAUL 14, MINN.

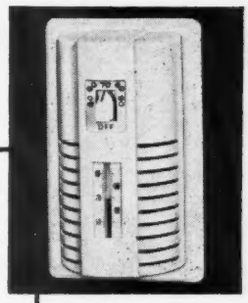
CROWN your Installation with THE **GALONGAGE!**

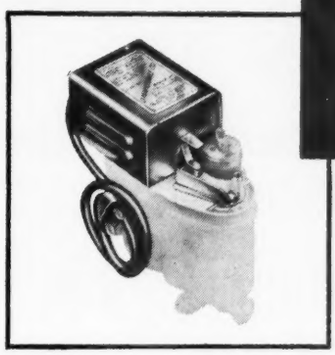
Outstanding in its field, *Galongage* design, construction and appearance does credit to the finest heating installation. Because *Galongage* measures in gallons . . . has large, easy-to-read numbers . . . requires only 4-inch head clearance . . . comes fully assembled . . . is approved by Underwriters' Laboratory.

When ordering specify depth of tank and size of opening.

APPLIED MECHANICS COMPANY
381 CONGRESS STREET, BOSTON, MASSACHUSETTS

McCORKLE 412 PACKAGE SET





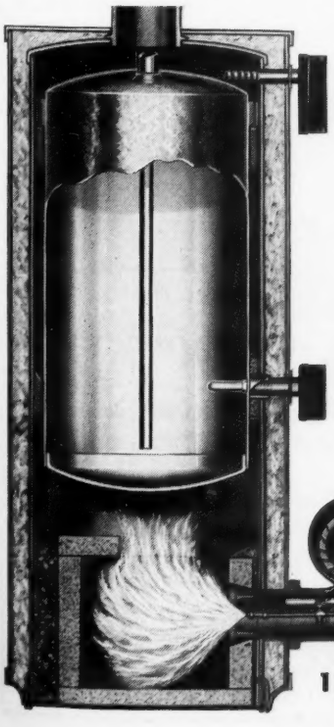
Makes the Circulating Heater Fully Automatic

The 412-C2 Package Set can be easily installed by your customer. The set consists of Model C-2 Wall Thermostat, Automatic Head with built-in low voltage Transformer, plug-in cord and 25 feet of flexible double conductor wire. Complete and detailed instructions packed with each set.

- *Simple to Install*
- *Plugs in Standard Outlet*
- *Automatically Maintains Even Temperature*

D. H. McCORKLE CO.
BOX E, STATION A • BERKELEY, CALIFORNIA

BOCK WATER HEATER WITH GLASS LINED TANK



- EXTRA heavy galvanized or glass lined tank, REMOVABLE.
- Sectional combustion chamber. Taken in and out of inspection door.
- Use No. 2 oil, same as in your furnace.
- Wide public acceptance, 26 years making good oil water heaters.
- Also a complete line of large heavy-duty oil or gas fired water heaters. For schools, apartments, and public buildings.

BOCK CORP.
110 S. DICKINSON ST.
MADISON 4, WIS.

What? Horizontal Furnace Vents? Certainly, with the . . .

quickdraft
DRAFT CREATOR

Over and over again in our advertising we have been proclaiming the fact that the shorter the chimney the better the draft—with *quickdraft.*

Now we go a step farther. The photo above shows that actually no chimney is needed. In the warehouse shown here, steam heating equipment was replaced by 29 oil-fired furnaces. All were vented horizontally with *quickdraft* supplying ample draft even when the furnaces are fired to capacity.

The X-Ray view below shows why *quickdraft* alone can claim DRAFT INDUCTION WITH NO OBSTRUCTION. The Venturi system, which acts as an aspirator, sets up no obstruction to flow of flue gases. No moving parts to corrode or collect soot, no bearings exposed to heat or combustion by-products.

Try *quickdraft* on your next warm-air heating job—large or small, for any fuel. It's the perfect solution to the draft problem with low chimneys, a characteristic feature of the modern ranch house.

For complete literature, installation manual and name of nearest jobber, write to Quickdraft Co., Dept. W, 1150 So. Erie Blvd., Hamilton, Ohio.

fueloil & oilheat

LOW 1955 PRICES

DRASTIC REDUCTIONS ON SMALL SIZES

Check LITE-CAST COMBUSTION CHAMBERS with your jobber!

MONOGRAM PRODUCTS CO., INC.

731 NORTH 35th STREET ★ PHILADELPHIA 4, PA.

Hupp Corp. purchases 40% of Perfection's common Stock

ON JUNE 11, the Hupp Corporation, New York, N. Y. and associates announced the purchase of 110,000 shares of common stock of Perfection Industries, Cleveland, as part of the two organization's plans to merge.

Associated with Hupp in the $2,750,000 stock transaction are John O. Ekblom & Co. and David J. Greene & Co., both of New York City.

Hupp makes stampings and complete assemblies for the automotive and major appliance fields, while Perfection manufactures a full line of space heaters, warm air furnaces and cooking appliances, along with numerous items for defense.

Perfection has two plants with a total of 1,500,000 sq. feet of production area, and recently added a third plant, located in Waynesboro, Ga. with 100,000 sq. ft. of space.

Donald S. Smith, since 1952 president and chairman of the board of Perfection, will continue in charge of the company's activities.

A Case against Type B Flues

(*Begins on page 60*)

pliances, does not specify a particular temperature, but does state that the flue must be 'incombustible.' And the definition of 'incombustible' within that code is that the flue will not melt when exposed to a temperature of 900°F. for a period of five minutes.

"What happens to the Type B flue when the temperature exceeds 550°F? The answer should be self-evident. Fire is much more than a possibility.

"We have already indicated one thing—the installation of an incinerator which could raise the temperature beyond the safety point. Actually, however, any number of events—great disasters or ordinary human error—could bring about such a danger. Consider the ever-present possibility of war and its accompanying shortages. During World War II, for example, about 35,000 oilburners in Metropolitan New York and New Jersey had to be converted to coal. That was easily and safely done because the flues were built to take all fuels. It would be impossible with the Type B flue.

"A break in the gas pipeline, an explosion, a national disaster, the depletion of the natural gas supply—any of these could send the householder scurrying to find another source of heat for his family.

"A homeowner who just plain wants to change fuels and a careless workman who installs a different type of burner—even this could bring about a series of disastrous fires.

"We believe no responsible citizen will deny that every American homeowner has the right to expect the highest standards of building safety possible in this, the country with the highest standard of living in the world.

"We believe the installation of the Type B flue to be inconsistent with such high standards of safety and we respectfully urge and request that your code be amended so that it is impossible to expose your family and neighbors to unnecessary danger.

"Respectfully submitted,

OIL HEAT INSTITUTE
OF LONG ISLAND."

Estimating Heat Radiation Is Simple and Quick with

BEACON RADIATION BOOK

Price $4.00

Thousands of Dealers & Heating Contractors use this book daily and say "What A Big Time Saver"

Order yours today!

THIS pocket-size book shows the required radiation for all rooms of ordinary size with from one to three windows, one to three exposures, and every combination of walls exposed.

Other sections of the book show the square feet of radiation in each section of radiators of various styles and designs. A wealth of information on required radiation that can be carried easily in a pocket or brief case, or used as a desk reference.

Please Mail Remittance With Order. Please No C.O.D. Orders! !

HEATING PUBLISHERS, Inc.

2 West 45 St. **NEW YORK 36, N. Y.**

NOW is the TIME to "CLEAN-UP"

with a

GRAND RAPIDS FURNACE CLEANER

Act Now! Get in on this year's cleaning profits. *Order a Grand Rapids Furnace Cleaner.*

IT'S FAST—Handles twice as many jobs as the ordinary furnace cleaner.

IT'S THOROUGH—High velocity suction completely removes ashes, soot, scale and dirt from every type of heating plant.

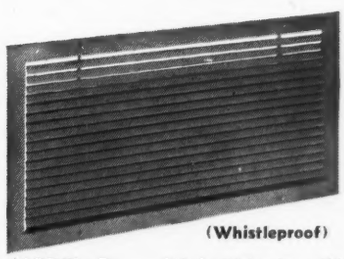
IT'S COMPLETE—A packaged unit with practical cleaning attachments designed for fast, easy cleaning.

IT'S PROFITABLE—The trouble-free operation and speedy service of the Grand Rapids Furnace Cleaner puts extra profits in your pockets.

Send today for complete information about the Grand Rapids Furnace Cleaner.

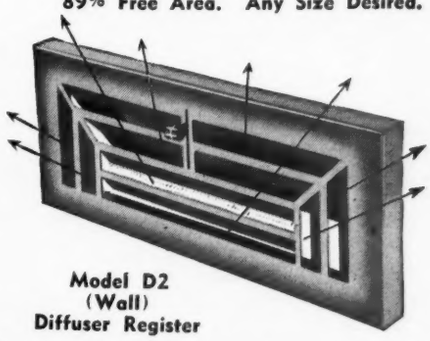
DOYLE VACUUM CLEANER CO.

233 Stevens St., S.W. **Grand Rapids 7, Michigan**



(Whistleproof)

MODEL R — High Velocity, High Efficiency Return Air Grille. 89% Free Area. Any Size Desired.



Model D2 (Wall) Diffuser Register

Besides Diffuser Type registers the National Line includes all types and sizes of registers and grilles. **Write for Catalog.**

National **GRILLE AND REGISTER CO.**

3169 East 80th Street Cleveland 4, Ohio

BOSTON DRAFT STABILIZER

WORLD'S MOST ACCURATE DRAFT CONTROL

GUARANTEES CONSTANT DRAFT

and protects your heater against these variables that destroy efficiency!

NOW AVAILABLE

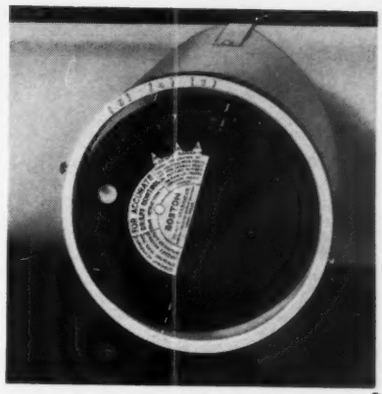
in 6", 7", 8", 9" and LARGER SIZES up to 24".

All available with or without TEE section.

TOPS in ability to hold draft yet the SIMPLEST to install.

NO WEIGHTS TO ADJUST

Can be properly set, even without instruments.



OPERATE YOUR HEATER AT PEAK EFFICIENCY WITH ACCURATE DRAFT CONTROL

BOSTON DRAFT STABILIZER

1. Slows down travel of gases thru the heater to a desired CONSTANT speed so heater can absorb the heat before it reaches the stack.
2. Holds a constant draft because variations in draft-pull result in changes of air delivery from the burner fan, causing changes in smoke content and CO_2 of your combustion.

Write for complete details

BOSTON MACHINE WORKS COMPANY

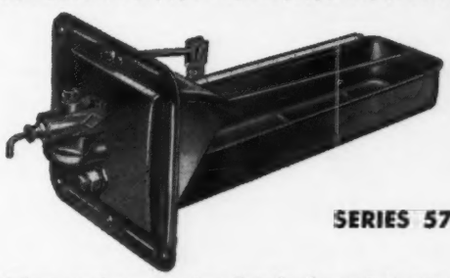
Oil Heating Supplies Division, Manufacturers, Lynn, Mass.

COMPLETELY ASSEMBLED

Vaporite

AUTOMATIC HUMIDIFIER

OFFERS QUICKEST – FASTEST INSTALLATION
ADJUSTABLE TO SLOPING OR STRAIGHT BONNET FURNACES



SERIES 577

Stainless steel construction. Drip-feed puts just enough water in pan for fastest vaporization. Eliminates scum . . . no stagnant water pan.

Pre-assembly cuts labor time and costs. To install simply cut hole in plenum wall, slip VAPORITE in just as it comes from shipping package.

Get complete information. Write FO-7

Automatic Humidifier Co.

CEDAR FALLS, IOWA

FUEL OIL HEATERS

Five types, engineered for efficient operation; oil-through-shell or oil-through-tubes, for use with steam or boiler water — discharge or suction side of oil pump — U-tube or straight tube. Write for Catalog 62 containing capacity tables. General Fittings Company, P. O. Box 151C, East Greenwich, Rhode Island.

GENERAL FITTINGS COMPANY GF

RAJAH TERMINALS

FOR OIL BURNER SPARK PLUG IGNITION CONNECTIONS
Made in Two Styles
CRIMP TYPE and SOLDERLESS

Code No. C/T #11

Code No. S-SOS #11

THE RAJAH CO., 35 Verona Ave., Newark, N. J.

RENICK & MAHONEY, INC.

Get dependable EQUIPMENT

OPW LOADING ASSEMBLIES

For efficient, maintenance-free loading you can depend on OPW counter-balanced loading assemblies — compact, convenient and versatile.

Consult us now about *your* plant or truck equipment problems, or write for catalog.

Get dependable SERVICE

RENICK & MAHONEY, Inc.

380 Second Ave. (at 22nd St.)
New York 10, N. Y.

R&M SERVICE

Complete Equipment for the Oil Trade

Oilheating for Builders

(*Begins on page 48*)

addition to the convector heat output we have the benefit of a partially heated concrete slab. Part of the slab acts as a radiant panel so that the lines running to the convectors serve as a considerable source of heat as well as suppliers to the baseboard convectors.

The effect of this system is to yield combination radiant and convector heating which gives fast pickup and easy control but also allows for a warmed floor and a fairly long operating cycle. In addition the second floor convectors can be connected to the same circulator without requiring separate control such as would be needed if the first floor were strictly radiantly heated by all piping in the slab.

The second floor system on this house is practically conventional baseboard except that piping is sized to take advantage of the circulating pump's available pressure head. Thus by splitting up the circuits the mains become ½" nominal tubing.

We recognize that the size of the tubing mentioned might shock some people but actually the sizes are adequate considering the amount of water that has to be pumped and the capacity of the circulator used.

The purpose of describing this system even sketchily as above is to stimulate the offering of an inexpensive hot water heating system on the grounds that this helps sell oilheating systems as explained previously in this article. It happens, as is frequently the case, that with the extra economy offered by a somewhat unusual design a bonus of an especially good system is achieved.

❖

Brody Distributors, West Newton, Mass., named as distributors for Silent Korth oilburners and Korth steel tubeless boiler-burner units, made by Eckhart Mfg. Co., Inc., Union, N. J. The Brody organization will service both jobbers and dealers from its local warehouse, covering the greater Boston area and extending west to Worcester County.

IT'S FREE!

HYDROVALVE'S NEW 1955 CATALOG

Completely Illustrated with Oil Burner Service Parts and Tools

- Fuel-Unit Parts
- M. H. Control Parts
- Electrodes
- Gaskets
- Bellows
- "Controlled Tension" Ignition Wire Terminals
- Service Tools
- Shaft Seal Assemblies
- Accessories

Available from Your Jobber or write for your FREE Catalog To-day.

HYDROVALVE COMPANY, Dept. F.
1319 UTICA AVE., BROOKLYN 3, NEW YORK
BUckminster 4-1330

NEW YORK TECH

America's Foremost School . . . Famous for teaching

OIL BURNER
INSTALLATION AND SERVICING
Also Courses in: REFRIGERATION & AIR CONDITIONING

Remember NEW YORK TECH *whether you have*
MEN TO TRAIN, or
NEED TRAINED SERVICEMEN

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